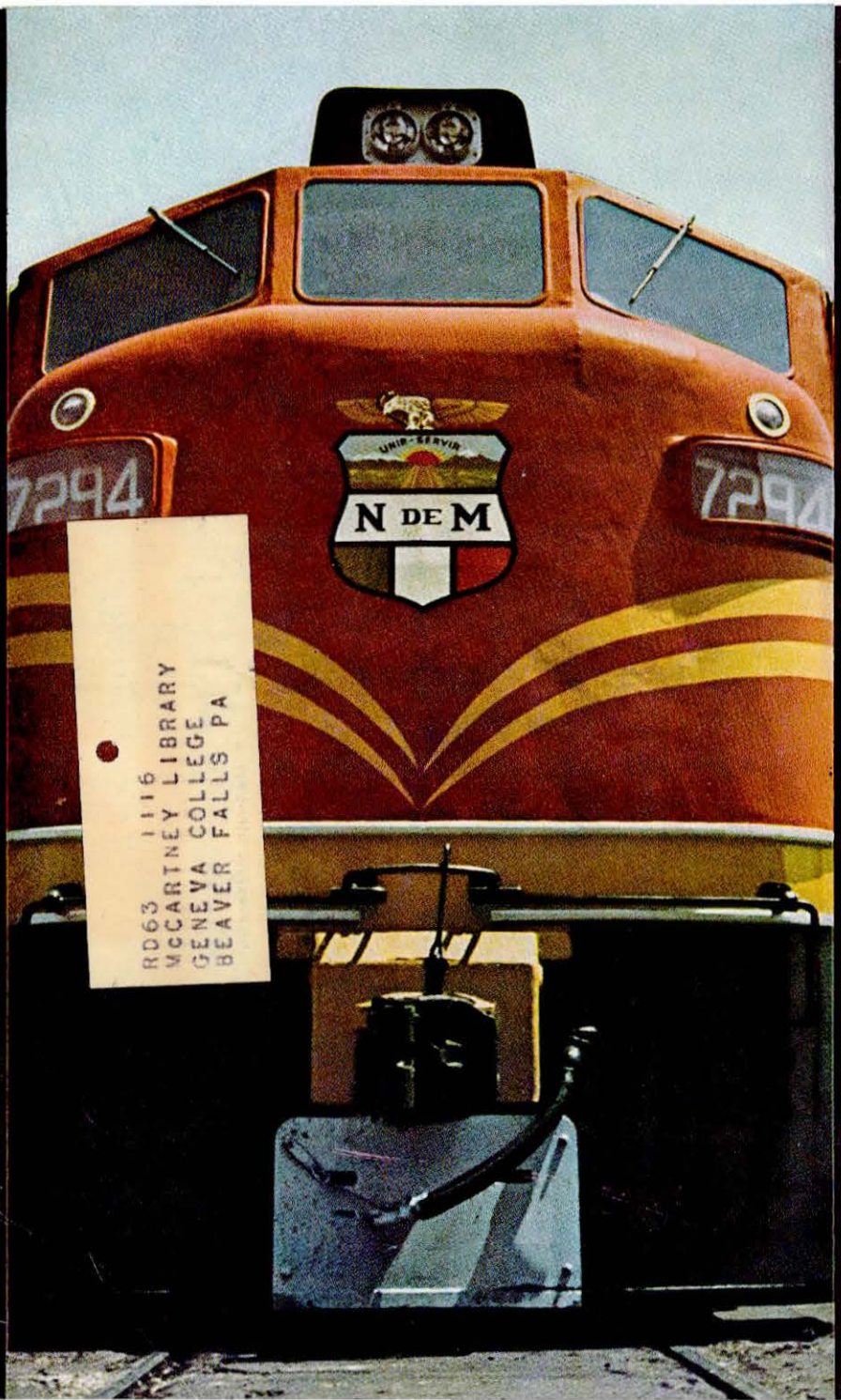
Quick-unloading hopper cars for **integral-train** service use special steels . . . . . p. 32

November 4, 1963

RAILWAY AGE WEEKLY



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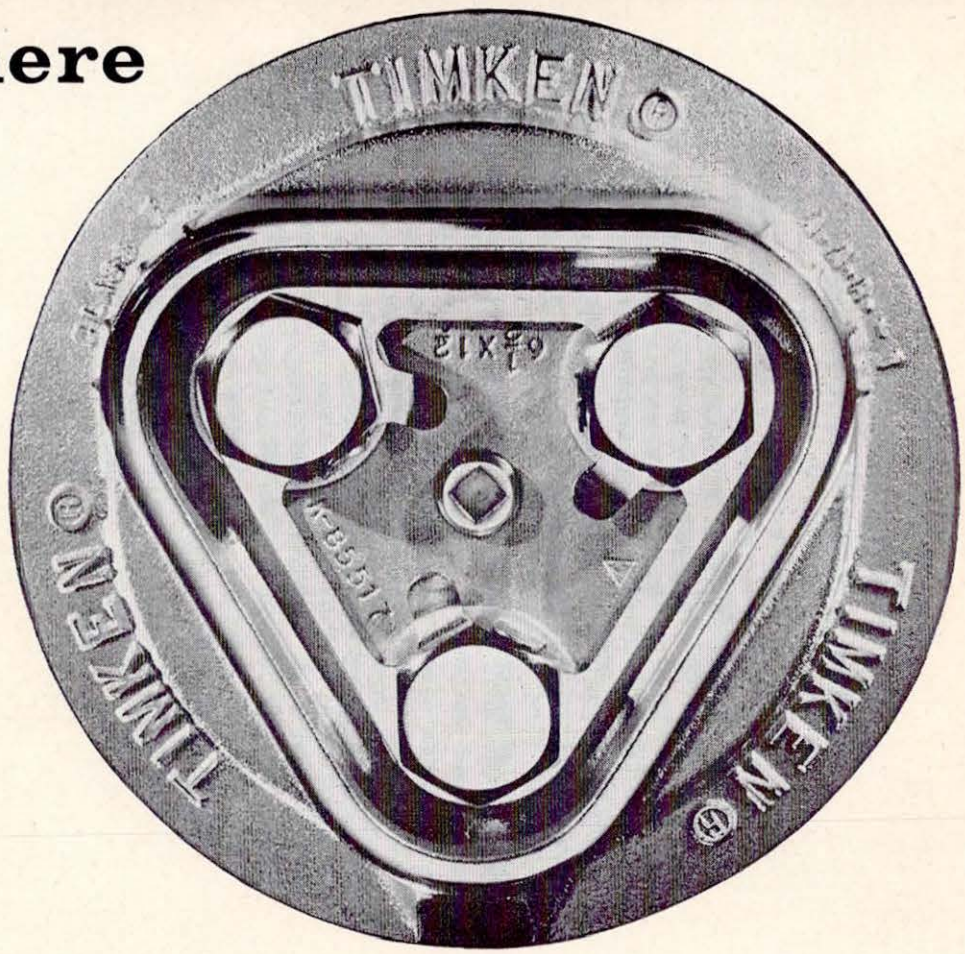
XI Pan American Railway Congress

REPORT FROM MEXICO

p. 13

The new look in railroading begins here



Rack cars for hauling motor vehicles are just one way railroads are cutting costs and winning new business. Some others: superdiesels, 100-ton freight cars, integral trains, advanced ride control and lading protection devices.

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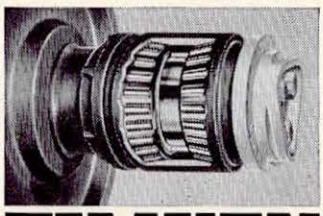

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RAILWAY AGE WEEK AT A GLANCE

November 4, 1963 • Vol. 155, No. 18

Merger activity stirring

New developments in the merger field will probably be coming in the next four months, what with shareholders' voting, the completion of studies and other action dates ahead. **p.9**

Report from Mexico

The dominant theme of railroading today, judging from reports submitted to the XI Pan American Railway Congress, is change—all directed toward more effective operations **p.13**

Monorail gets a 'no'; Chicago plans a shuttle

Los Angeles examined monorail for its proposed rapid transit system, but has turned it down, favoring dual rails. Chicago, meanwhile, is planning a fast shuttle. **p.18**

Standard rails get Bay Area approval

San Francisco's rapid-transit planners have decided to keep the flanged-metal-wheel-on-steel-rail principle for the Bay Area's proposed 75-mile system.....**p.19**

One way to un-bridge a gap

The Norfolk Southern has come up with a cost-cutting variation on the standard method of replacing a timber trestle with an embankment and a culvert pipe.....**p.21**

Integral-train cars use special steels

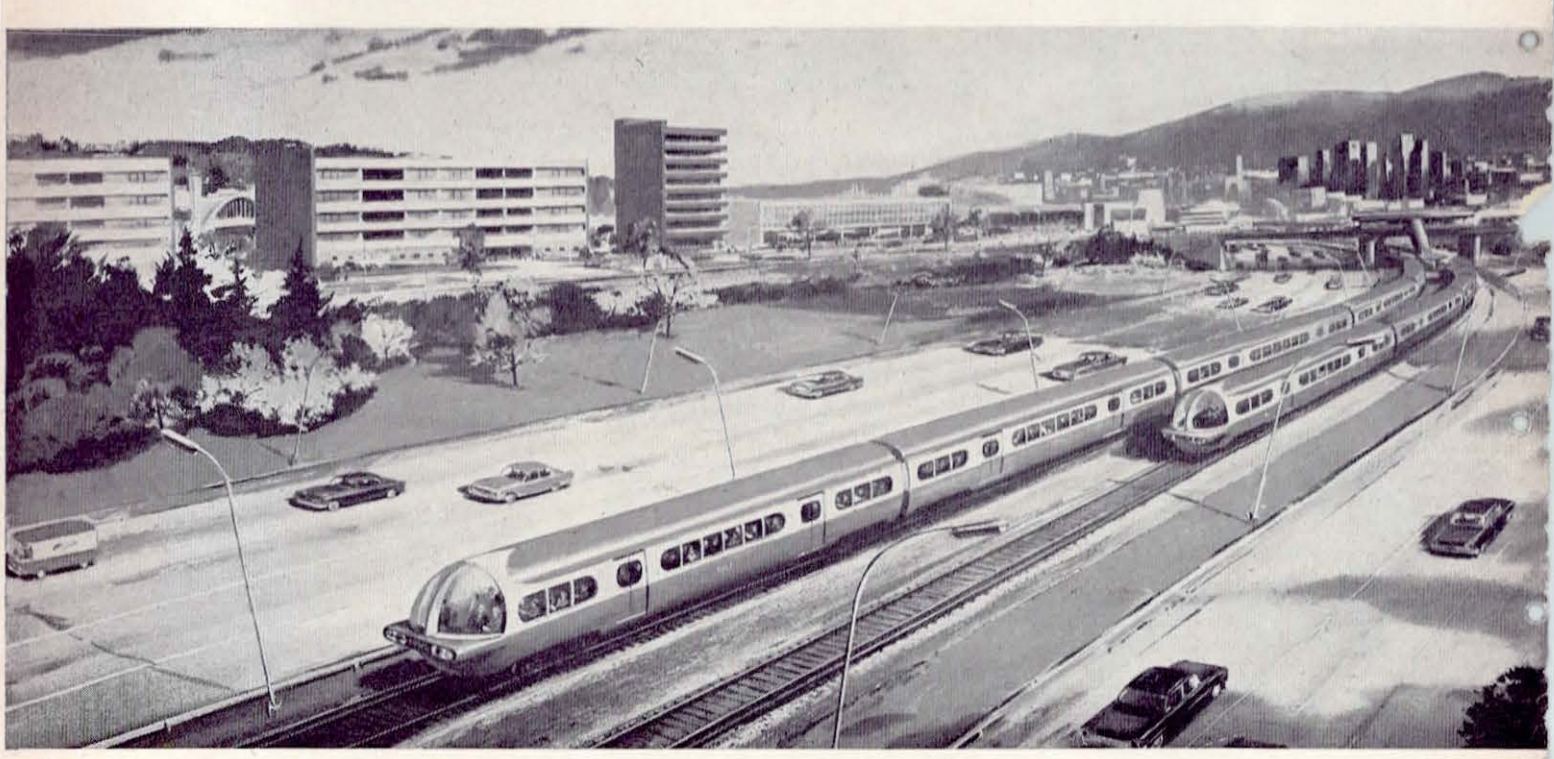
The cars being built by the Louisville & Nashville for integral-coal-train operation utilize five different special steels to keep light weight to 63,000 pounds.....**p.32**

The unit train—Key to coal's survival?

Unit trains are helping the coal industry retrieve business by cutting transportation costs. In the process, the railroads stand to benefit as well. **p.41**

The Action Page—Quill has smug company

A proposal by Boss Quill of the Transport Workers Union that cities offer free rapid transit is no sillier than providing toll-free waterways for opulent corporations.....**p.46**



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RAILWAY AGE WEEK AT A GLANCE

Short and Significant

B&O's booming piggyback service . . .

is expected to bring in $25 million by 1968 ($11 million this year), now that extensive tunnel clearance work has been completed to expedite traffic (p.44).

The shortage of grain cars . . .

is giving truckers a financial harvest. Elevators at Omaha, for example, reported a new high in grain truckloads for one day last month—332—as against 75 normally.

Yugoslavia last week received . . .

a $35 million loan from the World Bank to improve its railroad transportation. The loan will assist in financing improvements to a 121-mile line between Sarajevo and Ploce.

Class I railroad employment . . .

fell to 685,917 in mid-September—1.58% below the August figure, but 0.18% above the year-ago average, according to the ICC's Bureau of Transport Economics and Statistics.

The potential in automatic car identification . . .

and the possibilities in setting up a national computer accounting center are being probed by the AAR via a questionnaire to a number of member roads.

Out of the survey will come . . .

data needed to determine how best to progress ACI studies. Out of the studies, AAR says, will eventually come a recommendation as to whether the industry should adopt ACI.

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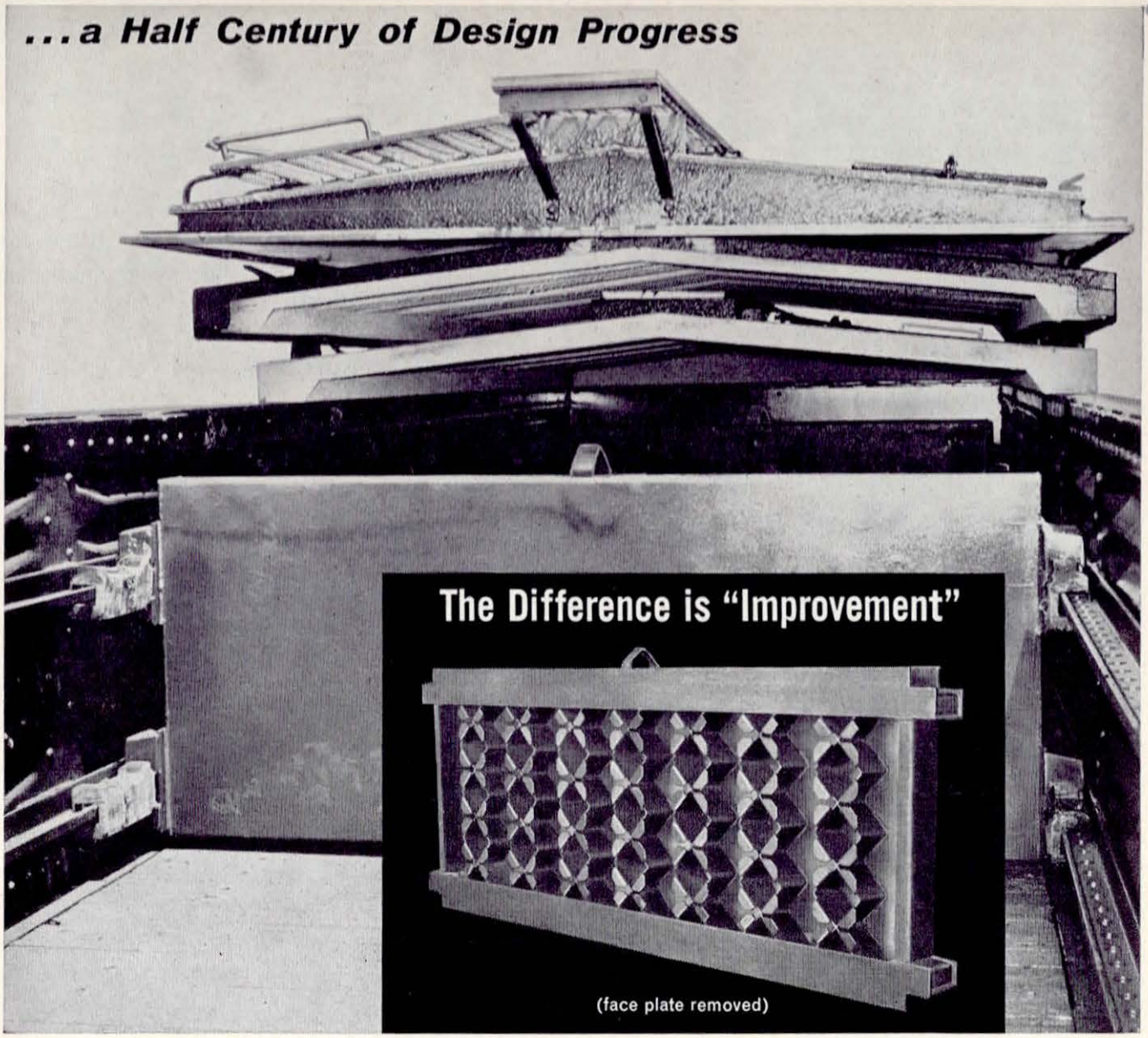
Current Statistics

Operating revenue	
6 mos., 1963	4,714,888,444
6 mos., 1962	4,703,908,621
Operating expenses	
6 mos., 1963	3,683,992,541
6 mos., 1962	3,712,959,223
Taxes	
6 mos., 1963	464,644,151
6 mos., 1962	523,652,505
Net railway operating income	
6 mos., 1963	359,753,801
6 mos., 1962	275,271,282
Net income, estimated	
6 mos., 1963	270,000,000
6 mos., 1962	181,000,000

Carloadings revenue freight	
43 wks., 1963	24,035,918
43 wks., 1962	24,000,350
Freight cars on order	
Oct. 1, 1963	18,388
Oct. 1, 1962	11,064
Freight cars delivered	
9 mos., 1963	31,891
9 mos., 1962	29,652
Serviceable cars	
Oct. 1, 1963	1,409,980
Oct. 1, 1962	1,435,250
Cars awaiting repairs	
Oct. 1, 1963	117,177
Oct. 1, 1962	131,615



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Merger activity stirring

Last week's announcement of a new study to determine the feasibility of merging the New England roads may be a forerunner of new action on the merger front. Due this month: voting by RI and UP shareholders.

That momentary lull in railroad merger activity came to a sudden end last week—and new developments will probably be coming with a rush for the rest of 1963 and well into '64.

Reason: Action dates are piling up—dates for stockholder voting on merger proposals, for completion of merger studies, for filing of exceptions in two control cases and, perhaps, for an examiner's report in one of the biggest of all the consolidation proposals.

Last week's break came in New England—and it took a somewhat different slant from those involved in past efforts to wrestle with the problems of the area's troubled railroads. The new study will look into the feasibility of combining the New Haven, Boston & Maine and the Boston & Albany division of New York Central. It will be headed by NYC senior vice president John F. Nash—and it will have representatives from the Pennsylvania and Norfolk & Western.

Most observers see the move as reflecting a variety of concerns, affecting the fate of the New England roads themselves and the possible delays which other eastern merger plans may hit because of governmental attitudes toward New England problems.

New Haven, in the past, has been cool toward formation of a New England system. The road's position—reaffirmed in connection with the new study—has been that any such network should be tied in with one or more of the major eastern trunk lines.

NH has asked to be included in the PRR-NYC merger, B&M has asked consideration in that case and in the N&W-Nickel Plate-Wabash consolidation.

Renewed activity on the New England scene, however, is probably only the kickoff for a busy three or four months of merger activity. Coming up soon may be a Commission report of the Great Northern Pacific & Burlington case; a decision, to proceed or not to proceed, in the Soo Line-Chicago Great Western studies; and a clarification of the situation as regards Rock Island, where both Union Pacific and Chicago & North Western are cast in the role of suitor.

● **December recommendation?** Best bet may be an examiner's recommendation on the GNP&B proposal. At one point during the American Railway Progress Exposition, rumor—apparently well-founded then—had it that the report would be filed momentarily. Later, however, it developed that the examiner had not yet completed work on the massive file—and informed sources now believe the report will come in December.

Action on the Soo-CGW front has been restricted thus far to preliminary feasibility studies. Presumably, the next step would be to analyze results and come to some decision on preparing a proposal. That decision, Soo said earlier, "should be possible" during '63.

● **RI, UP votes set.** Of more immediate—and more certain—interest are two votes coming up within the next two weeks. Rock Island shareholders will ballot on UP's merger proposal at a special meeting Nov. 15 in Chicago. UP stockholders will vote Nov. 22 in Salt Lake City.

Rock Island directors have approved the RI-UP plan, and Col. Henry Crown, chairman of RI's finance committee has appealed to shareholders to provide the needed two-thirds affirmative vote. C&NW Chairman Ben W. Heineman,

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

● **THE NEW PER DIEM SYSTEM** for rental of freight cars is still expected to become effective on schedule, Jan. 1, 1964. C. A. Lauby, executive vice chairman of the AAR's Operating-Transportation Division said so last week. He denied published reports that processing difficulties might require a postponement of the new plan's effective date. Meanwhile, the ICC has denied a Long Island petition which requested that two per diem cases pending at the Commission be reopened for further hearing to determine whether the proposed new rates should, when filed, be suspended pending determination of their lawfulness. The two cases are No. 31358, a complaint of so-called high-per-diem roads against the refusal of some so-called low-per-diem roads to pay the going car-rental rate, and No. 33145, the study of the over-all per diem situation which the Commission instituted on its own motion.

THE NEW RENTAL PLAN will be a multi-level system, with its varying rentals reflecting freight-car values (RA, May 13, p. 38). It will supplant the uniform-charge plan which has been in effect for more than 60 years. The uniform charge is now $2.88 per car per day.

THE RANGE of the new charges will be from $2.16 per car per day, for cars worth $1,000 or less, to $7.74 for cars worth more than $20,000. "Worth" means original cost less depreciation. The change was recommended by the Operating-Transportation Division's General Committee, cleared by the AAR's Board of Directors, and adopted by a vote of car-owning railroads. The new system will be administered by a Control Center in the Division's Washington Office.

THE ICC ORDER denying LI's petition included a memorandum, prepared by Examiner Walter L. Baumgartner, on the Commission's power to suspend proposed per diem rates. The memorandum concluded that the Commission lacks authority to suspend such proposals unless it first requires that they be published in tariffs. The examiner relied on the Interstate Commerce Act's Section 1(13) which authorizes the Commission to require the filing of per diem rules, and then says it "may" direct that they be incorporated into tariffs, thus making them subject to all of the Act's provisions relating to tariffs.

THUS FAR, the Commission has required only that the per diem rules be filed. It has not required that the filing be in a tariff. The requirement came in a 1947 order which is still in effect. The railroads have complied by including their per diem and car service rules in the non-tariff part of the Official Railway Equipment Register.

IT WOULD APPEAR UNLIKELY that the Commission would endow its filing with tariff status in order to pave the way for suspension of the proposed new system. A dissatisfied road can have its day in court without such Commission action. Since the industry's joint action on per diem rules has the benefit of anti-trust immunity under the Act's Section 5a, all roads have the right of independent action. Any of them can refuse to pay the new charges, just as some have refused to pay per diem rate increases of the past.

MEANWHILE, the AAR's car-ownership study is still under way, its objective being to determine ownership obligations of individual roads. It was authorized by the Association's Board of Directors several months ago as an undertaking to settle the per diem controversy. The study committee of railroad officers has held one meeting and plans to hold another this month.

meanwhile, has indicated a confidence that the plan will not get the required stockholder approval.

North Western has made its own exchange offer to RI stockholders, and the ICC has made preliminary moves to hold public hearings on the C&NW application. North Western's indicated ultimate objective has been a three-way combination—C&NW-RI-Milwaukee Road.

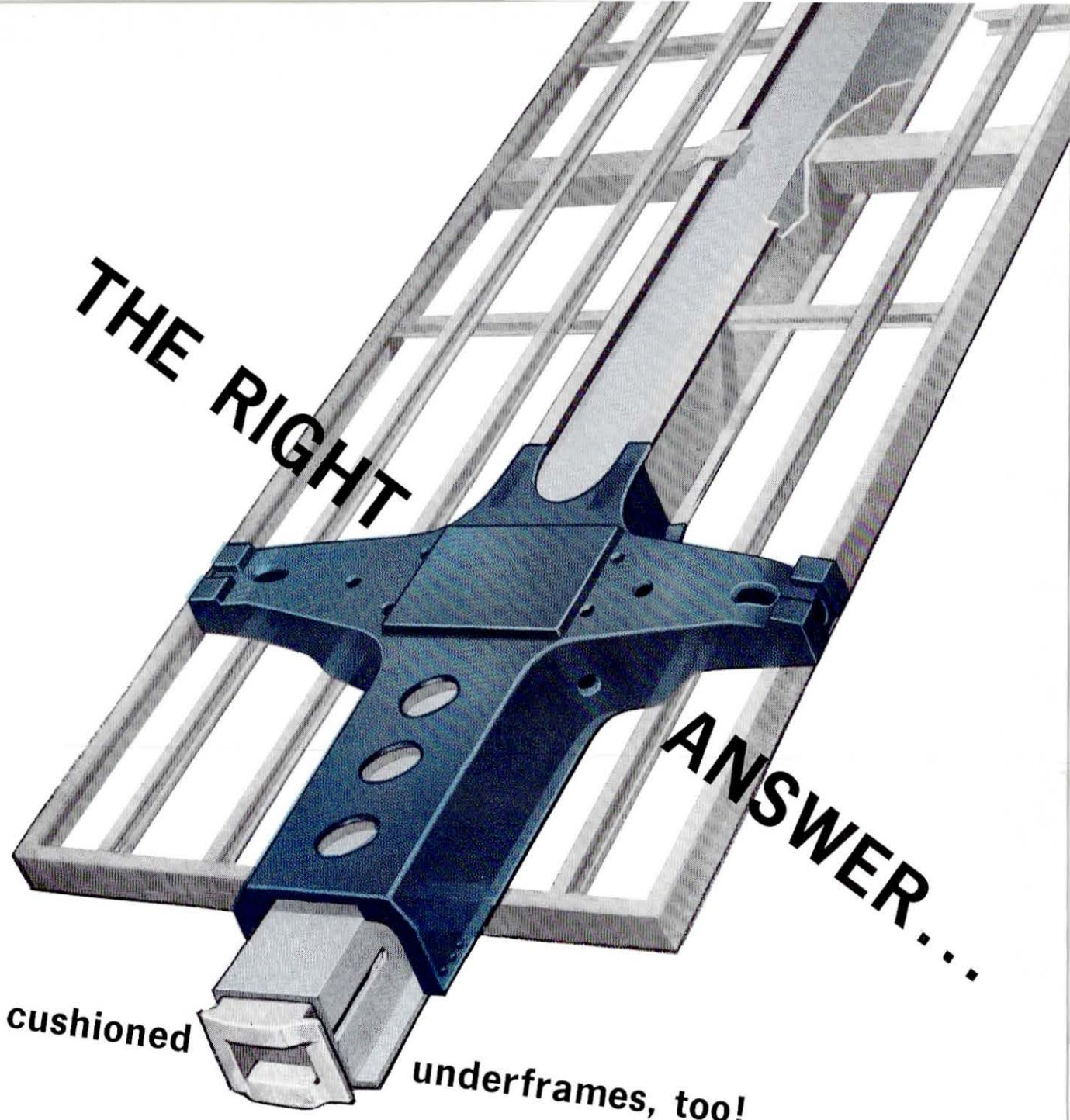
● **'No report.'** Two other mid-continent consolidation studies are strictly "no report" affairs. Illinois Central and Gulf, Mobile & Ohio have been looking each other over—but observers believe the situation may have cooled down, especially since C&NW sold a large block of GM&O shares it acquired last year. The second study—Santa Fe-Missouri Pacific—is described as preliminary and, from most indications, there'll be no early comment.

Farther west, another case involving Santa Fe may come to a final decision early next year. ATSF got, in September, an examiner's report approving its control of Western Pacific and rejecting a competing application from Southern Pacific. Now the deadline for filing exceptions to the recommendation has been shoved back to Jan. 6, 1964. Meanwhile, the Utah Citizens Rate Association has called on the ICC to reopen the hearings on the case, on grounds that WP's improved financial condition would permit it to continue operations, competitively, as an independent carrier. The group alleged that the record was "stale" by the time that the examiner's report was filed in the case.

Also due by next Jan. 6 are exceptions in another control case—in which an examiner approved Missouri Pacific control of Chicago & Eastern Illinois and rejected Illinois Central's opposing bid.

● **The East quiets down.** In the East, outside New England, the field is relatively quiet, now that the huge file of hearing testimony on the Pennsylvania-New York Central consolidation has been closed. During 128 days of hearings, the record swelled to about 36,000 pages, with testimony from 461 witnesses, 290 statements and 347 exhibits. Final briefs are due April 1, 1964—after which the examiners will dig into the staggering job of writing their report.

One unknown factor in the PRR-NYC merger case (and, at least indirectly, in some others pending) is the report of the federal government's Interagency Committee on Transport Mergers, which indicated opposition to the Penn-Central combination and recommended, instead, formation of four eastern systems.



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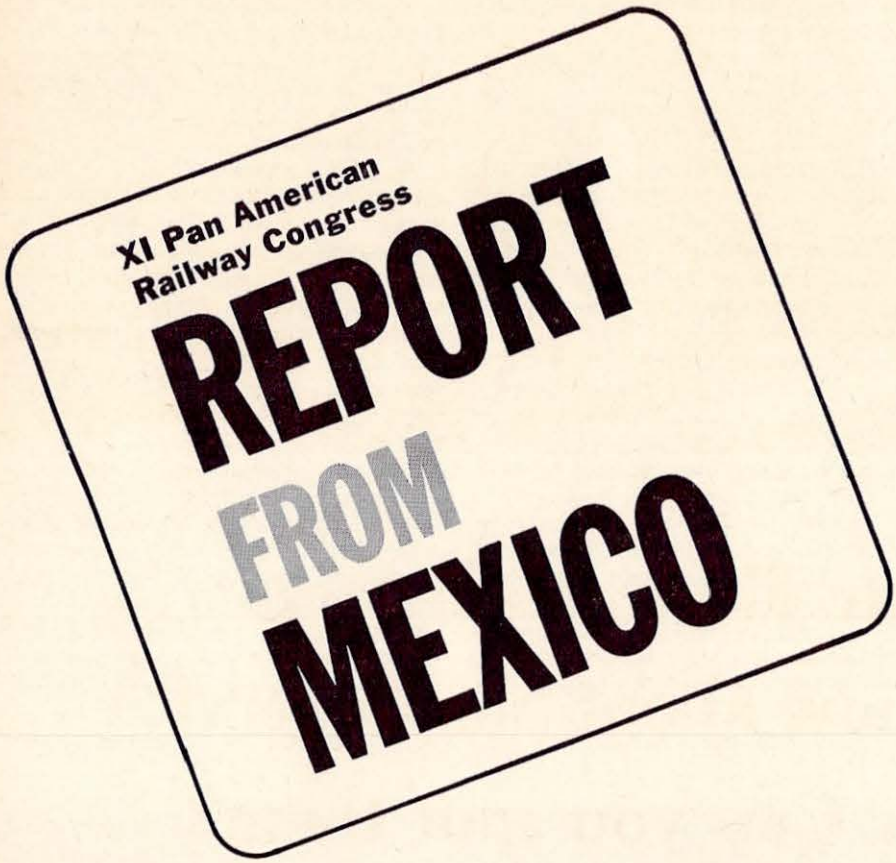

The spectacularly successful 14-day Congress, which ended on October 31, heard over 200 reports—58 from the U.S.A. alone—from a dozen nations in the Western Hemisphere and Europe.

The 11th Pan American Railway Congress turned out to be almost a world conference — emphasizing once again the striking similarities in railroading's problems, plans and potentials, the world over.

For two weeks (less a few days off for touring railroad facilities), delegates pored over more than 200 reports submitted from a dozen nations in the Western Hemisphere and Europe. Mexico and the United States dominated the list of entries—but papers were also filed from England and France, and railroad observers came to the conference from those nations plus Germany, Spain, Sweden, Switzerland, Belgium and Japan.

Most of the papers were technical, some were philosophical—and a few were radical, by today's standards of railroading. Throughout, the central theme was change—change indicating that railroads, however they're managed and whatever their problems, are making massive efforts toward more effective operations in almost every phase of the business.

● **58 U.S. reports.** More than one-fourth of the reports—58 in all—came from railroad officers, supply-company representatives, government officials and consultants in the United States. The subject matter ranged from regulation to motive power and car developments, from urban transportation to public relations.

For the more than 500 Western Hemisphere delegates who met in Mexico City for the Congress, one of the papers of broadest interest—in a futuristic way—was prepared by Interstate Commerce Commissioner Howard G. Freas. Looking ahead to the growth of national economies and the expansion of inter-Hemisphere trade, Mr. Freas urged consideration of a multi-nation agency—perhaps patterned after the ICC—which would handle international trade matters.

● **No preferential treatment.** Providing for a free flow of commerce within and between sovereign states, he told the Congress, "will not produce maximum benefits if waste, unjust discrimination, undue preference or advantage in the movement of goods are permitted. Nor will the removal of tariff walls be completely effective if preferential treatment is accorded the transportation of one nation's goods over that of another.

"It may well be that before many more meetings of this Congress there will be an effective international agency dedicated to the facilitation of transportation among the countries of the Western Hemisphere, if not among the free nations of the world."

Commissioner Freas also took a hard look at transportation as it operates in the U.S. today—and came to the conclusion that more economical, more efficient operations are needed. And he made a strong case for each mode doing the job it can do best and at the lowest cost to the public.

"It seems elementary," the commissioner declared, "that if traffic were channeled to the forms of transportation which can best perform operations reasonably adapted to that kind of traffic at the lowest cost, these carriers—sometimes of one form and sometimes of another—could provide better service at lower rates and at greater profit to themselves. The over-all advantage to the public generally of doing business in the most economical and efficient way should be obvious. Having available both a single truck and a pipeline, certainly no one would use the former to transport large quantities of oil in regular and uniform movement or the latter for the transportation of isolated small lots.

"If the various modes of transportation were under single control, the first thing an alert management would require would be a study of the most economical and efficient means by which to handle different types of traffic. It would undoubtedly offer shippers a choice of schedules and flexibilities in service at different rates. Some and perhaps many of the services would embrace a combination of modes of transportation. Such an all-embracing company would be interested in giving the best service at the lowest cost, and not in preserving some artificial advantage. In pursuit of this objective, its management would not be inclined to favor any particular mode of carriage. Through studies, the company would gradually find the proper place for each."

● **Just a suggestion.** Commissioner Freas said he is not advocating such a setup—only "calling attention to what would be done as a matter of course if there were but one carrier." The need for channeling shipments in the most

REPORT FROM MEXICO

efficient and economical way, he declared, "is just as great when we deal with a multiplicity of carriers of different modes."

How much might be saved if traffic were handled this way? Mr. Freas called a 5% saving "most conservative." But, he pointed out, "on the traffic now moving by regulated carriers only, this would amount to more than $1 billion." And there would be other benefits soon produced: "Undoubtedly, such a system of rate-making would attract to authorized carriers much traffic now moving in private and unregulated carriage. While there would be a shifting of traffic among regulated carriers, sometimes one way and sometimes another, it is doubtful that the aggregate of any forms would be reduced. The form that did move the traffic would do so at rates returning a reasonable profit, yet providing a substantial saving to the public."

Commissioner Freas was not the only U.S. participant to tackle the tough subject of rates, competition and regulation.

• **Competitive rates.** Herbert O. Whitten, senior consultant-revenue research for Chesapeake & Ohio, called for a new "transport-competitive-oriented" approach to railroad pricing, to promote economic growth and improve service to the public.

The evidence shows, he declared, that loss of traffic potential by the industry has resulted from a "continuation by the ICC of a value-of-service monopoly-oriented railway structure into a period of competition for transportation."

Mr. Whitten proposed establishment of a new competitive maximum rate scale which, he said, could return substantial quantities of traffic to the rails on a profitable basis. He also urged the industry to work toward adjustment or clarification of existing laws so that railroads will be able to "service shippers and receivers of freight on a non-discriminatory basis, but reflecting differentiation in competitive costs of service and characteristics of demand."

With such a setup, he explained, railroads would be able to reflect in pricing structures the demands which the shipper himself makes on the carrier. Further, he said, private-carriage costs, "which in effect are today's value-of-service, would be met in the most profitable manner."

• **Utility approach?** Mr. Whitten also suggested a public-utility approach to rail rates, in which total traffic flowing into and out of a single plant would be covered by a single monthly bill—a sort of "monthly service rate." The shipper or receiver, under this plan, would earn his rate the same as he would a gas or electric rate: "The more service he uses, the cheaper it would become."

Another proposal for attacking the private-carriage problem came from John C. McMichael, manager-freight rates of the Pennsylvania. His experimental rate scale would be below the cost of do-it-yourself trucking and above rail costs. All the elements needed to determine the application of such a scale, he noted, are available with today's pricing techniques.

The core of private-carriage tonnage,

A host of dignitaries featured the opening session of the XI Pan American Railway Congress. Shown here addressing the delegates is Louis Armand, secretary general of the International Railway Union.

Mr. McMichael told the Congress, "can be determined by traffic-flow surveys. Competitive private-carriage cost can be ascertained by engineered studies. Average rail cost figures are a matter of public record."

● **A matter of discretion.** "Selection of commodities to comprise the core is a matter of discretion on the part of rate officers. Calculation of private-trucking costs and rail out-of-pocket costs for various weights and distances with proper allocation for profit and rate increment is relatively a simple matter of programming for use in an electronic computer."

The result, PRR's rate officer said, would be "a simple tariff covering a variety of commodities classified by their loading characteristics. The tariff will name rates and amounts per 100 pounds for various weights for various distances" and would also offer incentives for heavier loading at a small incremental cost.

The effects of greater efficiency and economy in operations were also analyzed in detail by W. B. Saunders, an economic consultant, and by James L. Sheehan, partner in a New York firm of investment bankers.

Mr. Saunders concentrated on the improved car utilization possible with expanded use of the unit-train principle —which would permit a fleet of 60,000 freight cars, or about 4% of the existing car fleet, to handle more than 21% of the nation's total annual rail freight tonnage.

● **$14.19 per ton.** Today's $17-billion investment in freight-car equipment, he noted, is equal to an average investment of $14.19 per ton of freight handled in 1962—while the unit-train investment would approximate only $1.65 per ton.

Under-utilization of equipment, he maintained, causes the great difference —but, while there are great economies to be realized through greater use of shuttle trains, "only by a new system of marketing is it possible to give full opportunity to railroad management to make optimum use of the unit-train principle." Technical know-how, he pointed out, is available: "The obstacle is not technology. It is economics."

Mr. Saunders, of William B. Saunders Co. of Washington, D.C., called the unit train a "logical application of modern industrial techniques in the field of transportation. In effect, the railroad must be considered part of the assembly line—the only difference being that it is spread out geographically."

● **Maximum utilization.** Main advantages of the unit-train principle, he said, come from rail management's ability to get maximum utilization of equipment through planning and scheduling of service—but this also demands that the

'The Mexicans did things up proud'

Attending a Pan American Railway Congress is an experience bordering on the unique—especially if the entire trip is made by train. The Railway Age-International Railway Journal contingent —four men strong, headed by Publisher Bob Lewis and Executive Editor Luther Miller—did it that way, leaving Chicago on the Wabash at noon, trans-loading to the Missouri Pacific at St. Louis and the Nacional de Mexico at Nuevo Laredo. And arriving in Mexico City second evening, as they say in the freight-traffic business.

It matters not that an airline brought the Chicago part of the group back home in three and a half hours. The train trip was unsurpassed—both from a scenery standpoint and for the relaxation that nothing but a long train ride permits.

NdeM had its moment of embarrassment—when first the air conditioning and then the lights went out in the "Aztec Eagle" dining car. But nobody much minded—including John W. Barriger, P&LE president, and his wife, who also made the journey by train.

Mr. Barriger was one of four U.S. railroad presidents attending the Congress—along with Ernest S. Marsh of the Santa Fe, J. T. Suggs of the Texas & Pacific and J. W. Kraemer of the Texas Mexican.

The official U.S. delegation to the two-week meeting included two top railroad association officers—AAR President Dan Loomis and Don Manion, president of the short-line association (who got unanimous acclaim for his handling of the chairman's job in Section 3 of the Congress, the group dealing with discussion of operating problems).

U.S.-based supply companies were also in evidence, via their Mexican affiliates, at the Pan American Congress exposition. Among the exhibitors: Pettibone de Mexico, General Railway Signal, Westinghouse Air Brake Trade Corp., Timken Roller Bearing, Miner Y Mendez de Mexico, General Motors de Mexico and Alco.

American railway suppliers also made a financial contribution to the Congress—$2,400 allocated by a number of U.S. companies to be used as prize money for winning papers submitted by participants from this Hemisphere.

Consideration of papers—there were more than 200, with 58 from the U.S.—is a complicated business, in which a reviewer studies the entries, makes summaries and recommendations (as to whether a paper should be discarded, printed in the proceedings in part or in full, or printed and awarded a prize). Quite naturally, with the U.S. and Canada the only English-speaking nations involved, Spanish was the dominant language.

Still, U.S. papers fared reasonably well—both those which reviewers approved and those which authors were called upon to support in remarks from the floor.

As in past Congresses, language proved to be a small barrier, easily scaled by railroad men—who, maybe because their problems are generally common, have a way of communicating without regard for the niceties of foreign-language syntax.

For the Mexicans, this was their second Pan Am Congress—and they did things up proud, starting with the formal inauguration of the meeting by President Adolfo Lopez Mateos. After that, delegates saw—at Mexico City's Buena Vista station, certainly one of the most impressive railway stations ever built—the official unveiling of the first built-in-Mexico diesels. NdeM shops at San Luis Potosi put the units together (four, in all, thus far). And they're called SLP salads—mainly because San Luis Potosi built them from parts bought from various suppliers.

Top officers of the Mexican railways say they'll wait a bit to see if home-building of locomotives is an economical thing—and, in the meantime, they'll buy about 80 diesels from U.S. and Canadian builders in the next year. Only about 125 more units will be needed to reach complete dieselization—which means that anyone who retains the old nostalgia for steam power has little more than a year to see big steam still operating within easy travel

—Gus Welty

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First assembled-in-Mexico diesels were exhibited at the Congress.

shipper and receiver consider movement of material on regular schedules and, in many cases, provide adequate facilities for rapid loading and unloading.

Estimates of expanding coal consumption by U.S. electric utilities, Mr. Saunders indicated, point to a good market for unit-train transportation—but that's not all the shuttle trains may be good for. Shipment of other bulk commodities moving by other forms of transportation, he told the delegates, also may be a market for unit-train handling.

Mr. Sheehan, partner in Dick & Merle-Smith, hailed rail management's accomplishments in promoting increased efficiency of operations. But, he said, U.S. railroad securities will continue to have a restricted market until adequate earnings restore the railroad industry's credit.

● **'Courageous' investors.** Because of the general low rate of return on investment, he noted, purchase of rail securities to any significant extent "will probably be on a highly selective basis and limited to those investors with courage and an intimate knowledge of the railroad economy."

Like other U.S. participants, he looked hopefully toward solution of major rail problems — discriminatory taxation and regulation, subsidies to competitors, featherbedding — which "would go a long way toward restoring health to this financially sick industry. If all modes of transportation in the United States were placed on an economic rather than a political basis," he declared, "the present ratio of 43% of total inter-city ton-miles handled by the railroads would increase substantially."

Mr. Sheehan estimated that industry capital expenditures for improvements to plant and equipment should run between $1.5 and $2 billion annually—compared with the average annual rate of $1 billion since the end of World War II. His conclusion: "Access to capital funds is especially significant at a time like this when competitive and political influences almost compel industry to adopt for its survival the most efficient methods to hold down and reduce costs."

● **Technology advances.** While many of the papers from the U.S. concerned railroad relationships with outside influences, many others noted present—and, possibly, future—developments in rail technology.

Paul V. Garin, manager of mechanical engineering and research for Southern Pacific, took a long look at locomotive developments—and pointed out that many roads "are facing the time of decision as their present diesel fleet gets older." The alternatives: Rebuild in kind, repower with higher-capacity engines or find a different type or radical departure from present designs.

Among his conclusions: Where high horsepower is needed for traction, "it appears electrification cannot be ignored." Development of atomic-energy propulsion for locomotives appears limited to power generation at wayside stations for propulsion of electric locomotives and only then if the cost becomes competitive with the cost of conventional fuels.

Far off in the future, he said, may be such innovations as direct conversion of energy—fuel cells, thermo-electric and thermionic devices and magneto hydrodynamic methods. Thus far, however, all such possibilities involve extremely high costs per kilowatt, "far out of the range that can possibly be considered for railroad applications in the predictable future."

● **Signaling improvements.** L. S. Bottinelli, chief signal engineer of the New York Central, called attention to signaling improvements which, he said, can provide better service at lower cost.

Signaling, he told the delegates, was originally conceived and applied to safeguard train movements—but it "contains all the elements to expedite and facilitate train movements with economy. Continuing research and evaluation of technological advances have kept signaling up to date to meet problems of modern times. . . . By accepting and taking advantage of the exponential growth in scientific knowledge, railway signaling has grown to maturity, retaining all the elements necessary to safe train operation and providing the means to implement better service at less cost."

E. C. Honath, engineer of track design of the Santa Fe, outlined the savings possible through expanded use of welded rail—more than 7,000 miles of which have been laid in the U.S. and Canada in the past 30 years. Experience has proved, he noted, that welded rail has a greater economic service life than does jointed rail—and "although additional service life of continuous welded rail does contribute long-term savings, maintenance savings begin to show up almost immediately, and are the major portion of total savings." The economies from use of continuous welded rail, he concluded, "should surpass the expectations of many of the early advocates of welded construction."

● **Urban transit stressed.** Not surprisingly, a number of papers from U.S. authors concerned the development of rail rapid transit—a subject of increasing interest in Latin America as well as in the United States (and a topic which received a new boost during the Congress in a Mexican paper proposing construction of a $60-million subway system for Mexico City).

E. L. Tennyson, Philadelphia transit engineer, called an increase in profitable commuter-traffic volume one of the most needed solutions for rail problems. But, he added, this depends on three conditions—volume, efficient operation and a rapport with government.

At peak travel hours, he noted, "it is generally recognized that volume can be attracted if the stations are conveniently located with adequate, nominally priced auto parking at the suburban locations. Speed is also a most important factor in attracting volume, as is price. The equipment is less important, provided it works economically and reliably. New equipment for its own sake has not proved itself in this type of service. New equipment for the sake of efficiency and economy is another matter and is essential—and it is in this area that tremendous ad-

(*Continued on page 35*)

How a French railroader sizes up the industry's future

One of the best-known railroad men in the world is a stocky Frenchman named Louis Armand. He's the man most responsible for rebuilding France's railroads into one of the finest systems in the world after World War II. Now, he's the man in charge of the International Railway Union (UIC) as secretary general.

During the XI Pan American Railway Congress — which Mr. Armand addressed and attended as observer—he sat down with editors of Railway Age and International Railway Journal and talked about railroads.

What role does he see railroads playing in the future? "Very sincerely," Mr. Armand declares, "the railroad must be the automatic system of transportation of the future."

● **No 'tired nerves.'** His angle is partly humanitarian: "Men should not tire their nerves. They used to have to tire their muscles —but this was not a problem, since muscles regenerate. Nerves don't. Now the problem of traffic jams is very great. The tiring of men on highways is a very difficult problem—a nerve problem. In 30 years, we will consider it as barbarous that a man should be put behind a steering wheel to carry, for example, cauliflower —which doesn't care how it is transported. We will come back to automatic rail transportation, and one man will be enough to supervise the transportation of tons and tons of cauliflower from, say, Italy to the Ruhr valley in Germany. Then we will see real use of railroads. We will see that if railroads had been invented after the automobile, it would have been considered as a great progress. That is what we should attempt, what we should put into practice within the next 30 years."

Europe's railroads — destroyed during the war and rebuilt in the past 18 years—are widely regarded as among the most modern in existence. What, then, can the head of UIC learn from a conference like the Pan American Railway Congress? Mr. Armand has a ready answer: "To be completely honest with you, first is the opportunity for European observers to see the type of equipment that countries of the Western Hemisphere could utilize. Second is the necessity for all the railroads to keep informed in order to accelerate their progress. This might be retarded if each makes his own way. It is better to put together the experience of each of them, especially since they are not competitors."

● **More cooperation?** Would these factors point to a need for closer international cooperation, more conferences, among railroads? Mr. Armand believes so— despite the admitted complexities of such international ventures into cooperation.

Two major examples

UIC's secretary general sees two major examples of what cooperation has done in Europe. One is an international pool of freight cars—many cars, marked for the pool, "which are utilized by each rail network participating as if they belonged to that network. This means that the cars do not come back quickly onto the originating or owning network. They do not come back empty. . . . This common equipment pool includes 14 European networks—and we believe that all international traffic will eventually be handled by the cars in this pool." Mr. Armand's second example is the "common financing of freight cars and locomotives, for which the American system of equipment trusts is functioning. For instance, a network of one nation guarantees the equipment of another nation. It has been necessary to obtain in this the agreement of 14 European parliaments, because certain existing laws had to be modified—but the European railroads are not afraid to introduce novelties or to fight for a new cause." Common-financing arrangement, he declares, "has functioned for many years now—and is a success. We think we can say that soon it will be on the American market."

● **UIC's problems.** UIC, however, is not an organization without problems. One is the introduction of automatic couplers— with three designs now up for consideration. European railroads, Mr. Armand notes, have "perfected the system of the hook and chain and, therefore, the problem is difficult." When might automatic coupling come on the scene? "I can say only that the most optimistic people say the application will start in five years. The pessimists don't say anything, as usual."

Another problem is the potential inclusion of the British railways as a continental network— particularly if the projected English Channel tunnel is built. A factor then will be braking systems—air brakes on the continent vs the vacuum-brake system used in Britain.

Much more immediate are the problems of financing—whether it should be direct by government by banks, or tolls or by some other means.

Mr. Armand, however, is confident that the tunnel will be built, that a final decision will come within a year and that another five years will be required to complete construction.

How important will the Channel tunnel be to European railroads? More important, UIC's chief says, than transport relationships between the eastern and western blocs—which are, at this time, moving along well.

● **Standardization gains.** With European lines progressing with standardization plans — for both motive power and rolling stock— how about the kind of standardization needed for the most efficient transportation between Europe and the United States? There's a major problem—and, Mr. Armand declares, "we have never yet been able to solve the problem of containers. But, with the West, we hope to be able to solve all our transport problems. It is the great desire of all European railroads."

So far as Europe itself is concerned, easy interchange and common use of equipment is coming along. This year, for example, passenger cars from other countries will be brought in to help the French during their heavy winter-sports travel season. Someday in the future, locomotives from other nations also may be put to use.

Monorail gets a 'no'; Chicago plans shuttle

Two rails for Los Angeles

Los Angeles Metropolitan Transit Authority officials, like their counterparts to the north in San Francisco, don't think monorail is the answer to their area's transportation problems.

MTA representatives last week went before the State Assembly Interim Transportation and Commerce Committee to give their views on what Los Angeles needs in the way of transit. Community rapid transit conferences have indicated that a minimum of 64 miles will be required for the foundation of an area-wide system.

After viewing monorail proposals, MTA said that such a system would never be able to meet the area's requirements at a cost comparable to a twinrail operation. Total cost for 64 miles of rapid transit operating on twin rails is $669 million, as opposed to $709,288,000 for a monorail system, according to MTA figures.

MTA Board Chairman A. J. Eyraud told the legislators that monorail proponents "propose systems built to bare minimum standards. They insist on building overhead in areas where it is neither wanted or warranted. Their proposals are not feasible. They offer no magic solutions either in a rapid transit system or its financing."

Mr. Eyraud called for "acceptable—and comprehensive—legislation to meet the total mass transit needs of the metropolis" through introduction of a transit bill in the 1964 legislative session.

Ernest R. Gerlach MTA chief engineer, told the legislative committee that dependability, safety, capacity, passenger comfort, speed, efficiency, adaptability, flexibility and aesthetics all must be taken into account in measuring the suitability of a rapid transit system.

"The only type of system satisfying these criteria," he added, "is—based on proven and measurable performance and cost records—a high-speed, high-capacity vehicle running on twin rails."

MTA said the rapid transit system it builds must be capable of moving 30,000 persons per hour per track in peak travel periods. In the peak 20-minute morning and evening rush periods, 10,000 persons must be moved in each direction between Western Avenue and Wilshire Boulevard and Seventh and Hope Streets.

Mr. Eyraud said the twinrail equipment available "is the direct result of continuous engineering development and refinement," while monorail systems have not had any "measureable experience to speak of in mass transportation which combined the requirements of high speed and high capacity."

Voting a transit profit

San Francisco Bay Area residents, who last year approved a $792 million bond issue for rapid transit, voted themselves a substantial profit, according to one expert. Kenneth Lawson, an economist formerly on the staff of the Bay Area Rapid Transit District, estimates that voters will receive annual benefits of $136 million—$94 million more than the annual capital costs of the system.

Mr. Lawson, writing in a General Electric publication, predicts that the transit system "will ultimately attract at least 100,000 more jobs" to the area. Reduced commuting time, he adds, will total 44 million man hours annually, "valued conservatively at $40 million."

The rapid transit system will add $27 a year to the tax bill of the average Bay Area home owner, Mr. Lawson says, but more than that will be saved in reduced auto insurance premiums. "Approximately 60% of rapid transit patronage will be diverted from persons who would otherwise be using their automobiles," he explains. By not driving, he says, a total of $500,000 in accident costs will be saved, and each converted commuter will save an average of $33 a year in automobile insurance for using the transit system instead of his car to get to work. "Total annual savings of those affected," Mr. Lawson estimates, "would be nearly $1.3 million."

Shuttle in Chicago

Chicago Transit Authority wants the help of the federal government in its newest transit experiment—a high-speed shuttle between the city and the suburb of Skokie over the tracks of the defunct Chicago North Shore & Milwaukee.

CTA and the village of Skokie have filed a request for federal aid ranging from $267,200 to $334,033, the expected deficit for the two-year demonstration project. The experimental shuttle, CTA says, would provide "invaluable guide lines" for other cities considering similar transit projects. The transit authority is purchasing the North Shore tracks for $1.7 million, primarily to gain access to its Skokie shops. Access presently is obtained through a leasing arrangement (RA, Oct. 28, p. 44).

● **CTA looks for patrons.** CTA engineers estimate that 875 Skokie commuters would use the shuttle daily. CTA also hopes to draw former North Shore commuters from four nearby suburbs. North Shore had an average weekday volume of 1,295 passengers at the four suburban stations.

The shuttle would operate between 6 a.m. and 10 p.m., with buses providing service when the trains are not running. The five-mile trip would be made in 6½-7 minutes at a scheduled average speed of more than 46 miles per hour. "This scheduled speed," CTA says, "would be the fastest offered by any rail rapid transit line on the North American continent, and would be twice as fast as the present scheduled speed on CTA's rapid transit system."

● **Expansions possible.** CTA says it is willing to expand the capacity and scope of the project if it is successful. The authority "has available four more high-speed cars, semi-permanently coupled in two-car units, that could be used to expand the initial service." The parking lot also could be expanded.

Standard rails get Bay Area approval

Engineers planning San Francisco's rapid transit system were cool to other proposals.

San Francisco's rapid transit system planners, after checking all the other possibilities, have made up their minds to keep the flanged-metal-wheel-on-steel-rail principle for the Bay Area's proposed 75-mile system.

The nod was given to steel rails by the Bay Area Rapid Transit District's consulting engineers, Parsons Brinckerhoff-Tudor-Bechtel.

The engineers were given a blank score card to make a tally of the strong and weak points of transit systems throughout the world and to add them up to what is right for the San Francisco-Oakland-Berkeley area. The engineers' report told this story: some modern systems which dispense with metal wheels riding on two steel rails have much to recommend them, but for a master transit plan that demands high speeds, minimum headways, multiple switching and operations above, below, and on the ground, the answer is still wheel on steel. What's more, it will cost less to build.

San Francisco and the surrounding communities have no present rail rapid transit system that needs to be reconciled with future plans, so the engineers had a free rein with regard to design. Their assignment: give the Bay Area Rapid Transit District an urban network that will be the last word in engineering and design, and will stay up-to-date well into the future.

● **World-wide study.** Monorail, monobeam, rubber-tire systems—all the transit terms that crop up in transportation circles everywhere—got a hard look from BARTD's engineers. Preliminary studies going as far back as 1954 led to the provisional adoption three years ago of the duo-rail principle for estimating purposes, but no binding decisions were made before the investigators had done some thorough comparison shopping. They didn't limit themselves to the domestic scene, either—consultants ranged as far afield as London, Paris, Berlin and Tokyo, and got a look at a good many experimental systems as well, both here and abroad.

The broad conditions set for them back home were these:

- Safety and dependability.
- Convenient passenger distribution and collection, especially ease of transfer to feeder bus and rail lines.
- Speed. Vehicles must be capable of maintaining an average of 50 mph including station stops (an acceleration rate of 3 to 4 mph per second and a top speed of 80 mph).
- Comfort. Smooth riding qualities, good ventilation and freedom from fumes.
- Beauty. Both stations and equipment are expected to be pleasing to the eye.
- Quiet. Low noise levels inside the moving cars.
- Flexibility. Permitting changes in routing, scheduling, equipment combinations, and to take advantage of technological advances still around the corner.
- High capacity. Peak period travel should accommodate 30,000 seated passengers.
- Adaptability. Operations above the ground as well as on it and under it.
- Electronic operation. The system should lend itself to a high degree of electronically controlled operation.
- Economy. As much as the above considerations will permit.

The experts have given BARTD the green light to go ahead and translate these conditions into working designs, in the light of what they've seen. The citizens of the Bay Area voted a $792,-million bond issue which paves the way for work to begin. Rights of way in San Francisco, Oakland and Berkeley have been selected, and decisions made that 24 miles of the system will be at-grade operation and 20 will be subway, tunnel or tube. One or possibly two new types of tunnel-boring machines will be tested next summer, and a 4½ mile test track for vehicles will be built in Contra Costa County. Target date for the system is 1968, when the first passenger service is set to begin.

All of this, however, hinges on the engineers' report to BARTD. Once the experts gave their blessing to the classic flanged metal wheel on steel duo-rail principle, the city fathers and BARTD could set a gigantic operation in motion that is sure to be watched closely by transit-minded observers everywhere. If the completed system truly does turn out to be "the last word"—and indications are strong that it will—then the report that endorsed a much-questioned principle may prove to be a "continental divide" in transit planning for the future.

The investigators were well aware of successful operations utilizing opposing schemes, not to speak of the appeal that novelty has, so they took care to compare in great detail the advantages and disadvantages of each concept.

● **Over-and-under vehicles.** The four basic ground-plans that competed for the investigators' approval were:

- Top-supported (suspended) vehicle, using monorail.
- Bottom-supported vehicle operating on a single beam (monobeam).
- Bottom-supported pneumatic tire vehicle running on two rail-like guideways.
- Bottom - supported, flanged-wheel vehicle, running on two steel rails.

Monorail, with its prospect of gliding through the air in cars suspended from an overhead structure, is by far the most glamorous choice. A system operating high above the congestion of surface streets is an attractive idea to many. Moreover, successful lines such as the one in operation in Wuppertal, Germany, for the last 50 years seem to make a case for monorail's practicality.

Nevertheless, BARTD engineers feel monorail has its drawbacks. One is the tendency for monorail cars to oscillate or sway. In high winds, or operated at the speeds contemplated by the Bay Area System, this tendency would become acute. The immediate liabilities: discomfort for passengers and wider, more costly clearances.

A French version of this system has managed to reduce the swaying problem somewhat by suspending the vehicle from two closely spaced rails instead of one, but lateral displacement at the lower outside edge of the car is still over a foot.

● **Switching problem.** The Bay Area System will need about 250 switches, and the field investigators also noticed monorail's poor switching performance. Their observations bore out the conclusions of a study made for Washington, D.C., by Operations Research, Inc., which commented adversely on monorail's speed, reliability and economy of operation in switching.

The cost of wider clearances is not all. Twenty miles of the projected west coast system will be below the ground, and here the greater vertical clearances necessary to accommodate monorail's overhead supporting structure would send excavation costs skyrocketing. Extra tunneling costs could swell the construction bill by anywhere between $24 to $55 million, depending on the ultimate clearances and supporting structures involved.

The problem of supporting structures

clinches the San Franciscans' argument against monorail even in above-ground operations. Twenty-four miles of the proposed routes would be at grade, and overhead structures would be required throughout, again sending construction expenses far over what a dual-rail supported system would cost.

The report's conclusion about monorail's potentialities for Bay Area System: "It is the consultant's opinion that the appeal of the suspended monorail—that of unconventional appearance—does not justify the acceptance of additional costs for construction and serious technical problems."

• **The so-called 'monobeam.'** The investigating team gave the same thorough going-over to the "monobeam" approach, where a bottom-supported vehicle straddles and operates along a single beam. The Alweg organization has taken the lead in this field, having built an experimental line near Cologne, Germany, and the well-known installation at Disneyland, California.

Perhaps the most publicized of all was the line constructed by Alweg for the Seattle World's Fair in 1962, and operated by them over a one-mile right-of-way between downtown Seattle and the exhibition grounds.

The Seattle line came in for a lot of public praise. In addition to its aesthetic appeal, it offered the advantage of carrying traffic high above surface congestion, and noise levels were unusually low for an elevated system.

But the investigators had their reservations. The cars operated over this line are supported by eight rubber-tired wheels riding on top of a concrete box girder and protruding into the car itself. Another 24 wheels on each car are mounted horizontally to follow the sides of the beam and provide stability. Thus, a two-car set, such as Seattle saw, required a total of 64 supporting and guidance wheels on five running surfaces.

Operation of this type of system at high speeds remains a big question mark. Neither the Seattle nor Disneyland installations featured high speed traffic such as proposed for BARTD, so the behavior of this kind of vehicle on curves or in high winds is largely a matter of guesswork, engineers said.

The engineers' report goes on to point out another similarity between monobeam and monorail—their essential nature as aerial rather than on-grade or underground systems. The same disadvantage of extra vertical clearances in tunnels shows up in monobeam, and cost again becomes a problem. Conclusion: "It is the consultant's opinion that the engineering inadequacies and the higher construction cost of the bottom-supported monobeam (or monorail) disqualify this type of system for the BARTD system."

• **The French touch.** Operations with rubber-tire vehicles on the Paris Métro as well as the projected Montreal network also invited the experts' attention. (Railway Age, April 1, p. 14). Here was another approach—the bottom-supported vehicle riding pneumatic tires which travel along a double set of guideways similar to rails.

They found it was one up on monorail and monobeam in these key respects: absence of sway, absence of additional supporting structures, adaptability to operation on, below and above the ground, and proven capacity for high speeds.

But the drawbacks that the consultants found were no less substantial. The guidance system was thought "not mechanically attractive," and the switching problem "not completely resolved."

Also, the shorter life of pneumatic tires as compared to steel wheels would mean higher maintenance costs, they believe. Without having the exact design of a car and guidance system in their pockets, the engineers would not go so far as to make detailed cost comparisons, but the feeling was that rubber tire maintenance expenditures could run as much as 50% higher than those for steel wheels.

Power requirements greater

Another drawback is that more power would be required. The greater bearing surface of rubber tires and the energy lost in flexing that much rubber calls for a basic energy output greater than for metal wheels. The difference in power requirements would not be too noticeable, car for car, but in the aggregate it could mean a 10%-25% higher power cost than for conventional rail transit.

Cost figures for the vehicles themselves also threaten to climb, where this system is employed.

According to the Bay Area consultants the complexity of the guidance system will send expenses spiraling even higher because of the special roadbed and trackage requirements of the rubber-tire vehicle.

• **But not all negative.** The upshot is a mixed attitude toward the pneumatic tire approach on the part of the scouts for BARTD. For the time being, its defects definitely rule it out for San Francisco. But its inherent qualities persuaded the engineers to leave the door open for the future by incorporating enough compatibility in their designs so that rubber-tire vehicles might be utilized by BARTD one day.

There is a big "if" on this subject: "If in the future a bottom-supported rubber-tire concept is developed that surpasses the flanged-metal wheel on steel-rail concept, the system being recommended in this report would permit its incorporation, since all basic structures could be utilized."

This brings the engineers' report right back to the time-tested concept of wheel on steel. But nothing could be further from their minds than to build a conventional rail transit network. One worry the BARTD men had was that the public would associate the recommended system with existing examples built two or three generations ago in the big eastern cities. Their claim is that steel wheel on steel rail is the *only* similarity the new plan will have to the older ones, and that technological advances in recent years preclude almost all other comparisons. BARTD fully intends to take advantage of every bit of the latest technical know-how both in transit and in related fields.

• **Light-weight cars.** What the engineers from San Francisco envision in the way of a vehicle is a light-weight car of steel, aluminum or some new material, incorporating all the latest advancements in structural design, mechanical equipment, interior furnishings, temperature control and insulation. Cars would weigh no more than 800 pounds per linear foot, be 10 feet wide, and have an exterior height not exceeding 11 feet, 9 inches from top of rail to top of car.

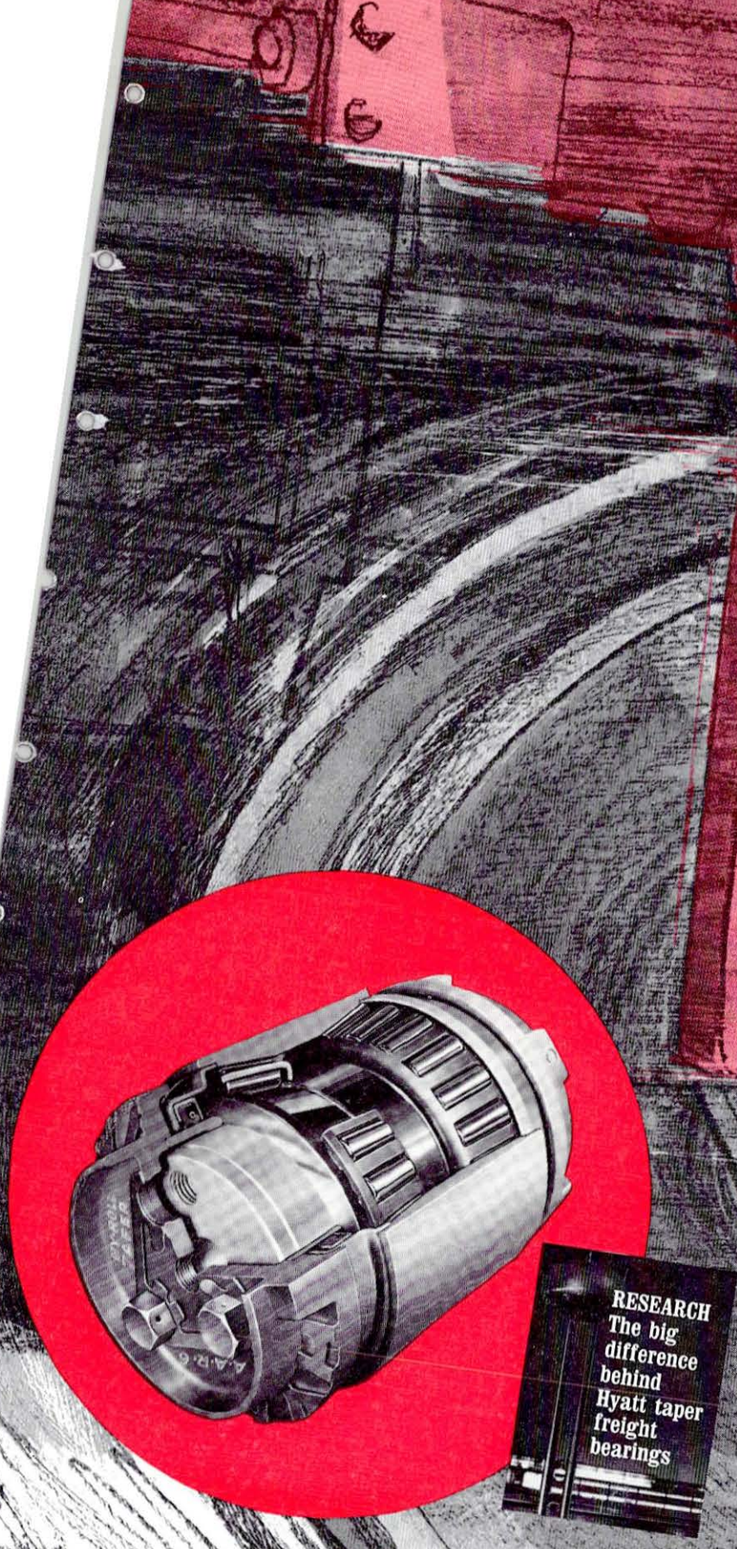
"Skirts" curving inward below the floor would stifle noise generated below the car.

Power would be supplied to the self-propelled cars in the most economical way by an electric propulsion plant of an advanced type. Operation would probably be from 750 to 900 volts of direct current (though not ruling out AC) available from a third rail.

An electronic control scheme would place all train operations under computer control, with an attendant on each train to override the controls and provide a safety margin. Along with automatic coupling devices, the electronic features would make reliability of operation possible with even less than 90 seconds headway between trains.

The report goes on to list a number of other recommended features for the coming system, but the crux of the argument is that wheel on steel is the best guideline for making these features feasible. In engineering, reliability of performance and cost of construction and operation, top rating from the consultants goes to the duo-rail principle, along with extra check marks for the improvements in comfort and reduced noise levels now compatible with this principle. For many transit-minded observers with an eye on the pace-setters in San Francisco, the wheel may be said to have come full circle.

REVENUES RISE AS RAILROADS



RESEARCH
The big difference behind Hyatt taper freight bearings

NS PROVES THERE'S MORE THAN . . .

One way to un-bridge a gap

The Norfolk Southern replaced a timber trestle by inserting a culvert, destroying the old trestle, then filling with an embankment. Exact scheduling of work reduced the interruptions to traffic.

The usual practice when replacing a timber trestle with an embankment and a culvert pipe is to leave the structure in position while placing the fill material. This permits the bridge to be kept in service while work is under way.

● **New approach.** In a recent project the Norfolk Southern departed from the accepted procedure in one important respect. This road, after installing a culvert pipe, pulled down the 22-span trestle, removed the pieces and then placed the embankment. By scheduling the filling work to be done over a holiday week end, traffic interruptions caused by the bridge's being out of service were m'nimized.

Norfolk Southern's bridge No. 351.9 carried the road's main track over Spring Creek, near Aquadale, N. C. The bridge was a 22-span trestle, 297 feet long and 60 feet high, constructed of untreated frame bents placed on timber sills supported directly on rock or hardpan. The bridge was originally constructed in 1914.

With the bridge programmed for renewal in 1963, careful estimates were made of the comparative costs of replacement with a permanent-type structure or an embankment, including a culvert to carry the water flow. On the basis of these estimates it was decided to adopt the culvert-and-fill plan.

● **Line change considered.** Because of the frame construction of the trestle, it was felt that the safety of the bridge might be endangered if fill were to be placed while the structure remained in position. To avoid such a possibility, the railroad considered placing the fill to the west of the trestle. However, after conversations with a contractor, it was decided that, if the track could be taken out of service for 72 hours, relocation of the line would not be necessary. Instead, as much fill as possible without encroaching on the bridge could be placed over the ends of the pipe, the track removed from service, the bridge torn down, the remainder of the fill placed and the track restored to service. This plan was adopted.

The culvert is an Armco Multi-Plate pipe 200 feet long and 13 feet in diameter. The ends of the culvert were made of eight-gauge metal, the part under the bridge of one-gauge material and the intermediate portions of three-gauge metal. The vertical diameter of the pipe was elongated 5%. Railroad forces installed the pipe, starting work on May 14 and completing it on June 12.

From a ridge of fill material partially constructed along the final toe of embankment, two cranes pulled the old 22-span wood trestle apart. A culvert 13 feet in diameter and 200 feet long is already in place.

An embankment replaces a trestle

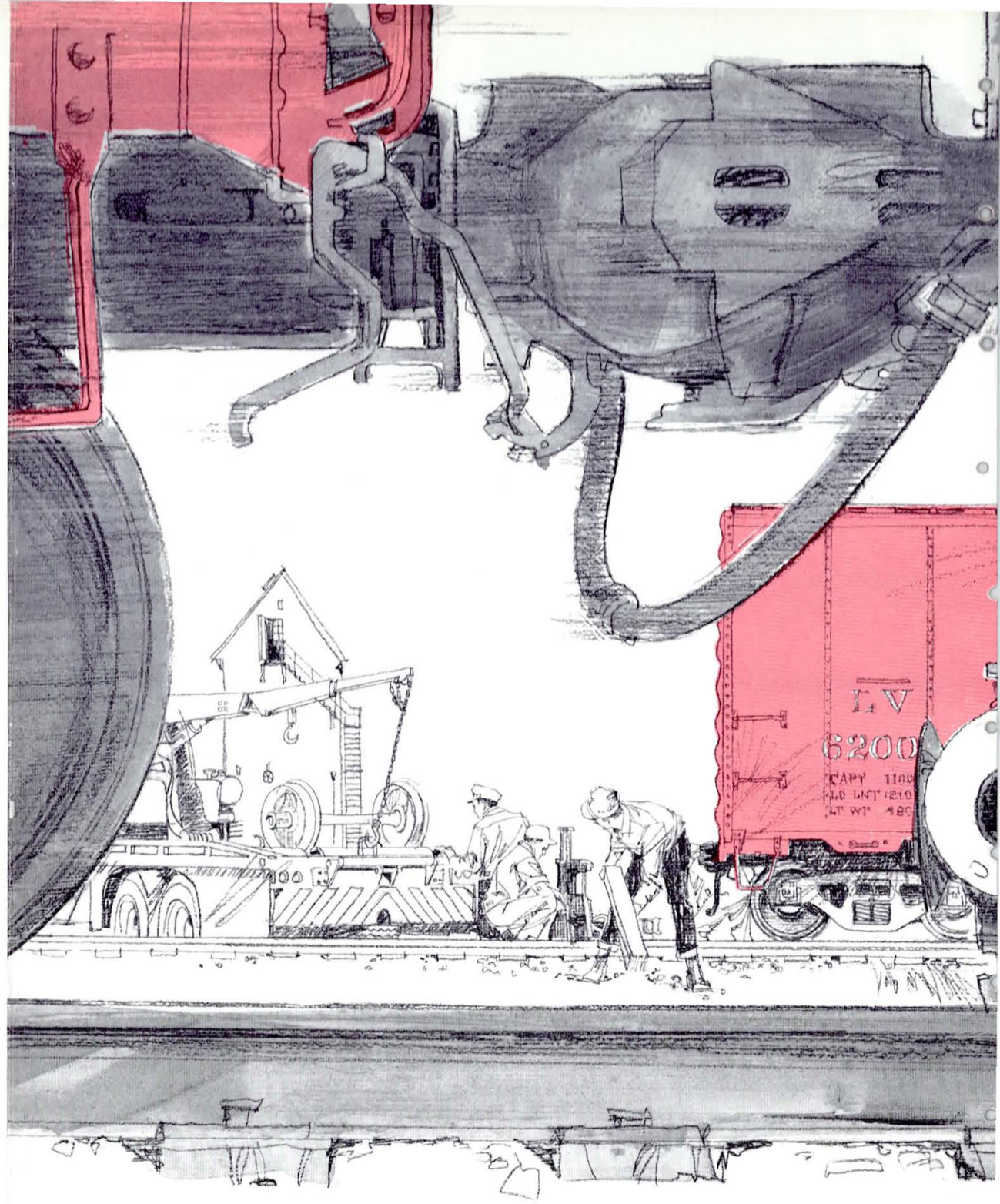
Even before the timber trestle was entirely demolished, earthmoving equipment began placing the remainder of the fill material, which was hauled about 1,000 feet from a nearby pit.

● **Placement of fill.** The grading contractor began work on June 10. In one and a half weeks he placed approximately 9,000 cubic yards of fill on each side of the bridge. The borrow material was hardpan clay containing some sandstone and soft shale. An attempt was made to use a sheepsfoot roller, but it became apparent that this operation was unnecessary. Since the ridges of each side of the bridge created drainage pockets, two eight-inch Armco drainage pipes were installed before the fills were built.

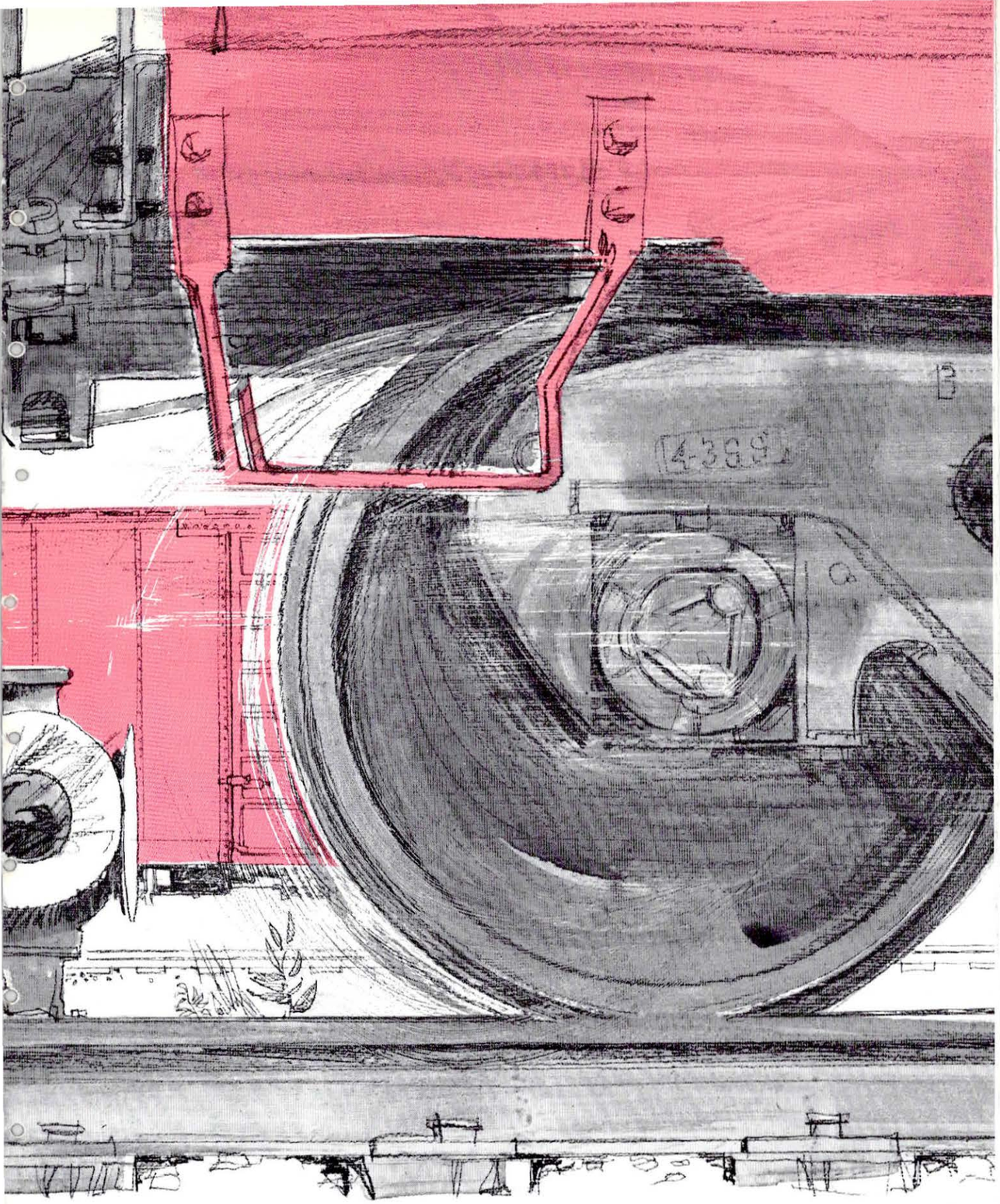
The July 4 holiday and week end were selected as the time to take the bridge out of service for 72 hours to permit completion of the grading. The contractor, Dickerson, Inc., Monroe, N. C., moved in his equipment on July 1, 2 and 3. It included five 24-cubic-yard Euclid pan scrapers, one D-7 and two D-9 Caterpillar bulldozers and two Bucyrus-Erie 30-B cranes.

On July 4, after the last train had

(*Continued on page 28*)



FROM PROBLEMS



TO PROFITS . . .

RAILROADING AFTER HOURS WITH JIM LYNE

LYNE

'UMBRELLA,' BRITISH STYLE—My vigilant friend Southworth Lancaster has sent me a clipping, reporting that one of Britain's local traffic commissions had forbidden, under protest by British Railways, a proposed bus service along the Scottish border. It was pointed out that trains serving the area are running "two-thirds empty." The bus people proposed fares at about half those by rail.

This is an "umbrella" over railroad service, all right. But whether it would be justified economically or not would depend (I should suppose) upon whether the railways are required to provide service or not. If a company is *required* to continue service in a thin traffic area that can support only one carrier—it is entitled to some protection against competition. In the absence of regulation in such a situation, probably only one of the carriers would survive anyhow—and the survivor would be the "low-cost carrier." Sometimes (probably in Britain as well as elsewhere) there may be social reasons for preserving common carrier service.

The difference between the "umbrella" in the U.S. and other countries is that, with us, it is always used to protect the railways' rivals—never the railroads. Apparently, in other places, it is used occasionally to protect railroads too.

SAME NAME, SAME INTERESTS—A couple of years ago (April 13, 1961) we published an interesting letter from an officer of the Netherlands Railways—by name J. H. van der Meulen. Not long ago (he tells me) he had a visit from a retired U.S. railroader (PRR) whose name and initials were the same as his (except that the American spelled his last name as one word, rather than three). The two namesakes quickly found common ground for conversation—viz., government policy needed for equitable treatment of the railroads.

There is more and more of this international contact among railroaders going on—e.g., the large U.S. delegation now in France attending the conference on "cybernetics," arranged by the International Railway Union. Railroaders are strikingly similar people, regardless of nationality or language; and international contacts among them hold out, I suspect, prospects for accelerated progress in railroad methods and technology.

DISTINGUISHED BRAZILIAN—During the recent American Railway Progress Exposition I had a visit with Helio de Almeida, who recently completed a strenuous year as Brazil's Minister of Transport and Public Works. Mr. de Almeida has a lot of railroad background—the company he headed before entering the government being the Brazilian affiliate of Westinghouse Air Brake. The ministry he led includes railways, highways, ports, air transport and the post office—making it Brazil's largest single enterprise.

On taking office Mr. de Almeida found that, although all in the same government department, each transport agency was doing its own "planning" separately—without relation to the others. As a consequence, some agencies were getting a disproportionately large share of capital outlays and others were getting the short end. Where capital is not abundant, and you have *X* dollars to spend on all forms of transportation, how do you divide the money so that the product is maximized in relation to the expense?

This is a question that every country faces and none that I know of has found an ideal solution—least of all, of course, the U.S.A.

'GETTING ALONG WITH PEOPLE'—On the question (raised here Oct. 7) about whether "getting along with people" or "getting results" is the more important qualification for a successful manager—my observant railroader friend George Frank sees no contradiction in these qualities.

"Nothing worthwhile is accomplished without people," GF insists. "Even the most competent person needs the cooperation of others." And getting along with people is not to be confused with so-called "popularity."

All people are salesmen—in one way or another. Some find it more pleasurable to win an argument than to sell their wares (whether goods, ideas, or themselves). Isn't it a fact that physical goods are usually easier to "sell" than ideas? And quite likely a more profitable occupation? Why? Some intrinsically meritorious ideas take as long to catch on as it does to repeal a useless law.

(*Continued from page 21*)

passed over the bridge at 5:45 p.m., the rails were unspiked and pulled back on the embankment at one end of the bridge. Using the two cranes, the contractor began at 7:45 p.m. to pull the bridge over. By 1:25 a.m., July 5, 10 of the bridge spans at the south end had been removed. Work was suspended until 6:00 a.m., July 5, at which time removal of the structure continued and the grading began.

At 1:00 p.m., July 5, the entire timber structure had been removed. Working around the clock, the contractor finished placing the remaining 33,000 cubic yards of the fill to subgrade level at 7:25 a.m. on July 7.

● **How track was built.** While the fill work was being carried out, the track forces were constructing the track to be placed on the new fill. The track was assembled in two sections, one over the other, on the existing track north of the bridge location. Following completion of the subgrade, a D-9 bulldozer was used to pull the two lengths to a point where the lower panel was in final position. The ties were all anchored on the track panels and wood runners were used under the ties to prevent them from gouging the subgrade. As soon as the lower track length was in place, the upper panel was pulled forward until it was in place. The wood runners were then removed and the track sections were coupled together.

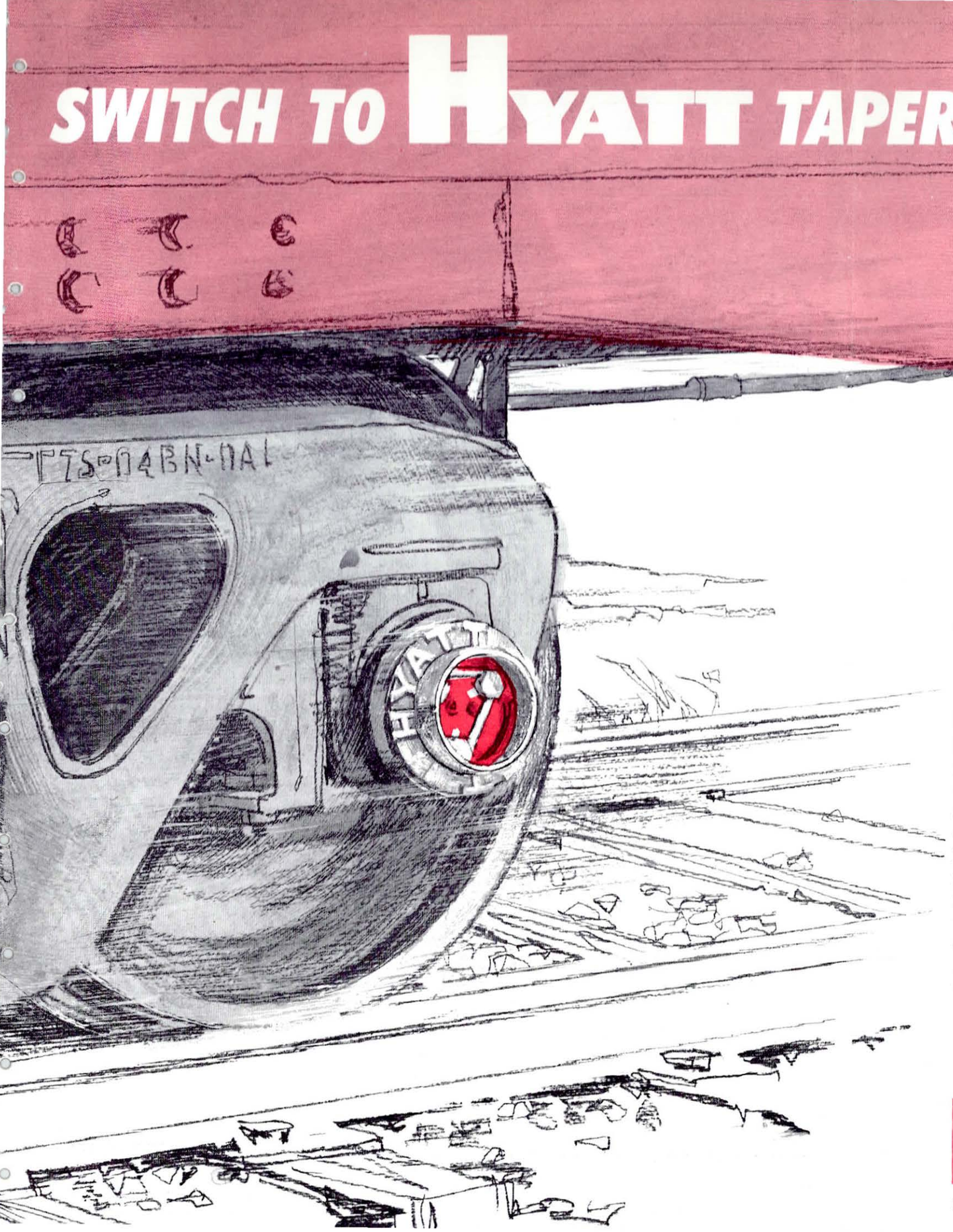
The first train to move over the new fill arrived at 11:45 a.m. on July 7. The first five cars were loaded with ballast. These were uncoupled and the ballast was spread, after which the engine and cars were recoupled to the train. By 12:15 p.m. the track forces had raised the track slightly and had surfaced it well enough to pass the train over it. The total elapsed time the track was out of service was 66½ hours.

The only work that remained to be done was the placing of rip-rap at the inlet end of the pipe and paving the bottom of the pipe.

● **Faster job next time.** Was the railroad pleased with the procedure followed on this project? Yes, says J. A. White, Jr., chief engineer, but adds that a few changes would be made if a similar project were to be undertaken in the future. Dickerson, Inc., suggested they would use a demolition ball to tear down the bridge and a clamshell for clearing away the bridge members. Mr. White feels these two changes would speed up the work.

The project was handled for the Norfolk Southern by J. P. Maynard, assistant chief engineer—engineering, H. A. Shamblin, construction engineer, J. A. Tutor, general roadmaster, and E. C. Boling, supervisor bridges and buildings.

SWITCH TO HYATT TAPER FREIGHT BEARINGS!



PROFITS UP, MAINTENANCE DOWN!

With Hyatt taper freight bearings you virtually do away with costly maintenance and lubrication. Terminal inspection time is at a minimum. This means you can roll up greater profits by paring down delays and operating costs. Hot boxes—one of the obstacles on the road to better railroad revenues—can eventually be a thing of the past.

HYATTS PAY FOR THEMSELVES IN OPERATING ECONOMY

Hyatt taper freight bearings help eliminate delays, reduce damage claims, increase car availability, improve service and promote greater goodwill with your shippers. Expand your earning potential with Hyatts—an excellent investment for integral trains, specialized service and regular interchange.

HYATTS ARE SOLVING THE HOT BOX PROBLEM . . . ONCE AND FOR ALL!

Hyatt's taper freight bearing has been tested and proved trouble-free on the ruggedest schedules. Exhaustive lab tests on specially designed machines have proved Hyatt's reliability under radial and thrust loads—and at speeds far in excess of actual service conditions. Today on the road, Hyatt equipped cars are accumulating up to 10,000 miles per month . . . with no trouble of any kind.

HYATT TAPER FREIGHT BEARING SALES UP 40% IN TWO YEARS!

And no wonder. Hyatt taper freight bearings have been proved dependable . . . modern . . . and fast. They have been a powerful factor in the "quiet technological revolution" which has brightened the railroad profit picture . . . a strong influence in the railroads' switch from friction to roller bearings on new car orders. You'll do well by your shippers . . . and profits . . . to specify Hyatt taper freight bearings for your new car orders.

HYATT ROLLER BEARINGS
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Another report on railroad progress from American Oil Company

To make commuting pay
NORTH WESTERN blends new trains

Now in its seventh year, North Western's program of commuter service modernization is still making headlines—*and progress!* The 1963 equipment order adds more units to the still-new fleet of 200 air-conditioned, bi-level coaches. It also adds 1.6 million to the total of more than 43 million dollars already spent on the program.

To reduce costs and attract more passengers, North Western is using new ideas as well as new equipment: The push-pull train to eliminate switching and turn-around, flash tickets instead of punch-type, off-peak service at the same time every hour, tickets mailed monthly and umbrella loans on rainy days.

No other commuter system of this size—80,000 passengers per day—offers so much comfort and convenience. But North Western doesn't wait for suburbanites to beat a path to its sliding steel coach doors. It uses newspaper, radio, television and direct mail reminders. And on the trains, folders and leaflets distributed to inform C&NW commuters often urge them to "sell" the service to friends and neighbors. In addition to all this, North Western has earned many local and national headlines with the scope of its modernization and the news value of such innovations as "shuttle boats" on the Chicago River (supplementing bus service in Chicago's Loop).

Today, after being hurt by new expressways and helped by abandonment of the competing North Shore Line, the C&NW is studying the po-

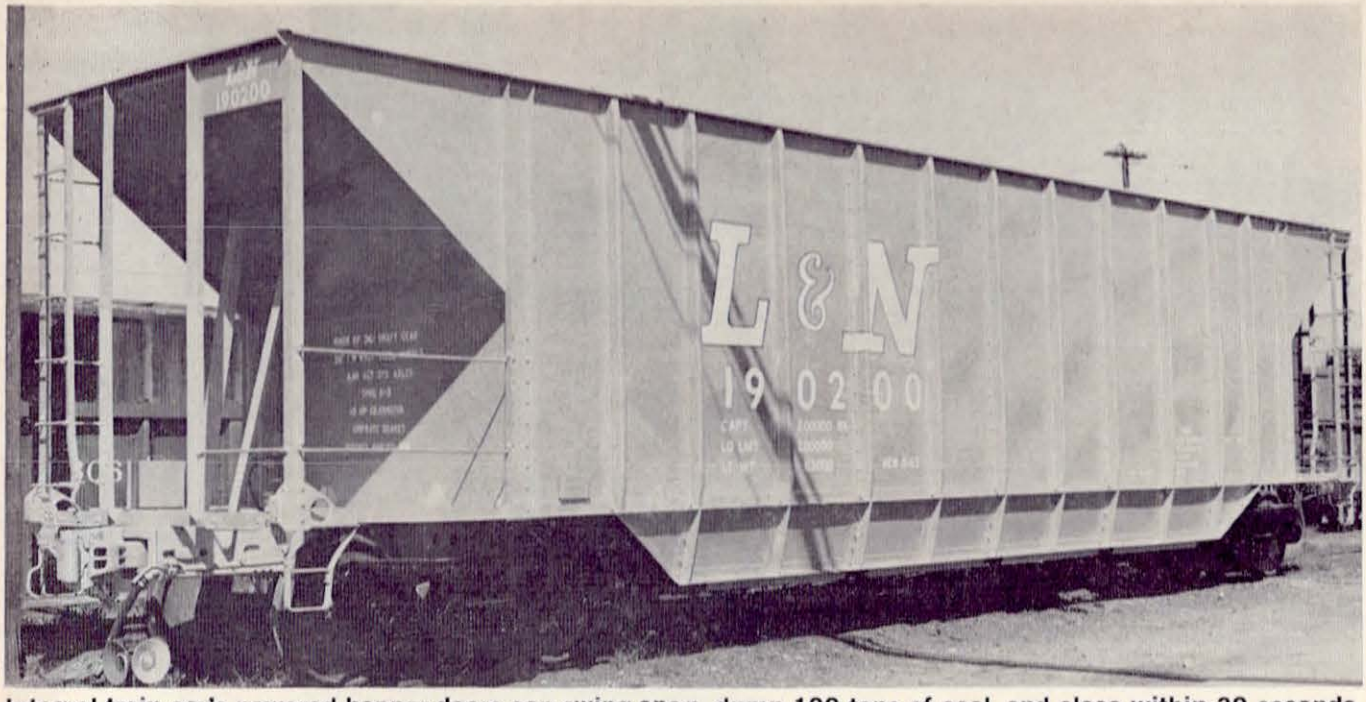
with new ideas

tential of inter-suburb traffic as industry moves out from the city . . . off-peak bargain fares . . . better connecting bus service and more parking space for train commuters.

This outstanding commuter service is just part of the progress being made by North Western's creative management. The C&NW is another of the many progressive railroads served by American Oil Company, supplier of petroleum products backed by technical assistance and research.

AMERICAN

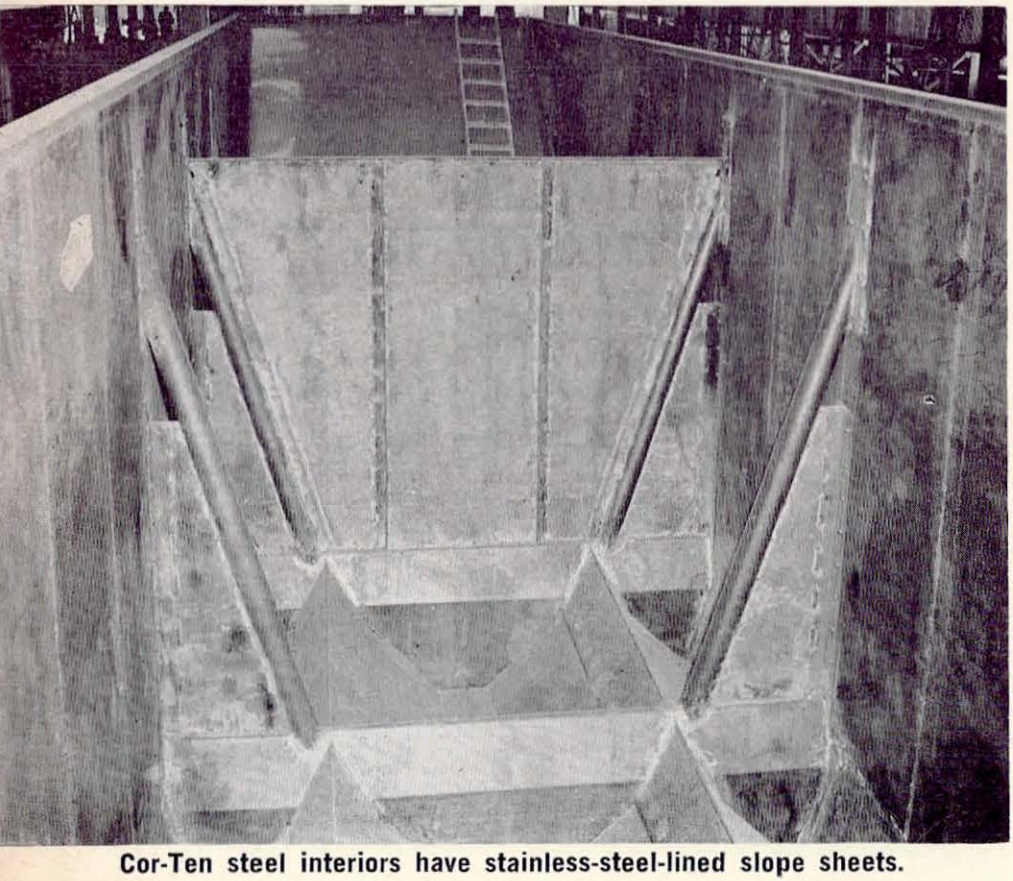
AMERICAN OIL COMPANY
910 S. Michigan Avenue
Chicago 80, Illinois



Integral-train car's powered hopper doors can swing open, dump 100 tons of coal, and close within 30 seconds.

Integral-train cars use 5 steels

L&N equips 100-ton coal cars with electrically-operated hopper doors that permit fast unloading of moving cars. Special USS steels allow designers to obtain 63,000-pound light weight.



Cor-Ten steel interiors have stainless-steel-lined slope sheets.

The Louisville & Nashville's new hopper cars for integral-coal-train operation are said to be the first cars built in the U.S. with five different special steels. The 50 100-ton cars are under construction on the L&N's new freight-car-assembly line at its South Louisville, Ky., car shops. The five special steels are USS Cor-Ten, Tri-Ten, T-1, T-1A and stainless.

The car design is based on a modified and improved version of a prototype built by the L&N in February 1962 (RA, April 16, 1962, p. 29) and subsequently widely tested to meet shipper requirements for high capacity and greater versatility. L&N officers indicate that the fleet of 50 cars are scheduled soon to shuttle between the West Kentucky coal fields and generating plants of the Tennessee Valley Authority along the Tennessee River—a 24-hour round trip of up to 450 miles (RA, April 29, p. 62). The cars can be unloaded either on the move or standing still, and can be manually or automatically operated (without an attendant) by remote control from a track-side station.

● **Less weight.** By a careful selection of steels to perform specific engineering jobs, L&N engineers were able

BRENCO *crown-taper* ROLLER BEARINGS

...are
in service
on more than
35 CLASS I
railroads

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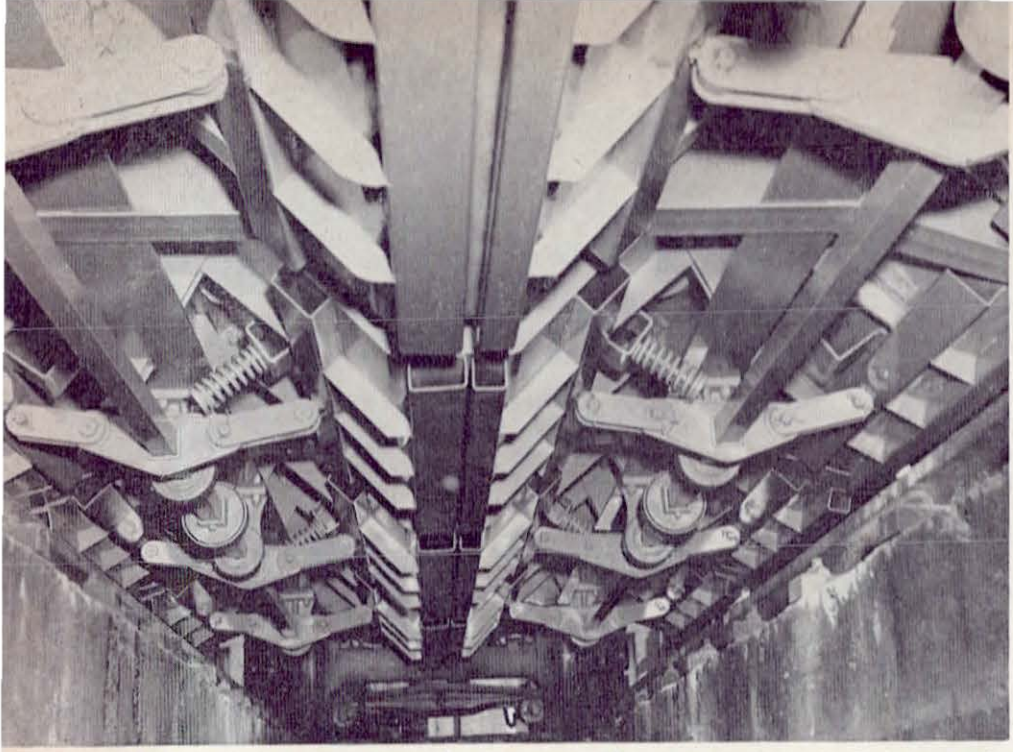

Mechanism opens doors in 6.4 seconds, closes them in 7.4 seconds.

to keep the car's light weight to 63,000 pounds, trimming 8,400 pounds off the prototype car built entirely from carbon steel. Use of the higher strength steels also permitted elimination of the center sill by substituting two intermediate sills located on each side of the car, halfway between the hopper side and the center line.

These parallel twin sills are fabricated from 14-inch-wide flange beams of USS T-1 type A steel welded at each end to a header sill casting of USS T-1 steel, the first such application in a freight car. In addition, the T-1 steels, with a yield strength of 100,000 pounds per square inch, were used in fabricating certain of the body bolsters, diagonal braces and other highly stressed structual components.

For body sheets, hopper doors, end floors and longitudinal hoods covering the intermediate sills, all the important parts which contact the lading and which, therefore, must resist both corrosion and abrasion, L&N used Cor-Ten. This steel is also used for the car's side posts with the exception of those at the four bolster connections. Because these posts must provide key structural support, they are fabricated from T-1 type A steel channels.

USS Tri-Ten, another high-strength, low-alloy steel, was used for secondary structural members, for the bulb angle end plates and for the top chord. Slope sheets were lined with USS type 410 stainless steel, which aids in the fast unloading of the car.

The cars have a length over strikers of 50 feet 5 inches, an inside length of 49 feet 4⅝ inches. Inside width is 9 feet 8⅜ inches and height from rail is 13 feet. Capacity level full is 3,600 cubic feet and 4,000 cubic feet with a 10-inch heap. Distance between truck centers is 37 feet 5 inches.

● **Fast unloading.** Electrically operated doors, designed to eliminate spilling coal on the track, open in 6.4 seconds, dump the coal (without shakers) in 12 seconds and are closed and locked in 7.4 seconds. Power for the motor can be applied to the cars either by contacts on the side of car or through a receptacle on one end of the car.

The 16 doors are opened and closed by a 10-horsepower, 440-volt, 3-phase, 60-cycle motor mounted transversely of the centerline of the car on the underframe 53¾ inches back of the centerline of the truck bolster at the A end of the car. A sprocket and chain connection between the motor and a crossshaft operates two 2½-inch-square cold rolled steel longitudinal door operating shafts through a worm and gear drive. The longitudinal shafts, which are mounted in sealed, self-aligning roller bearing pillow blocks, are arranged with a series of trip couplings which allow the doors to unlock in sequence and fall open all at the same time. The trip couplings are also synchronized so that the load of coal acting on the first set of unlocked doors helps the motor to unlock and drop the succeeding set of doors.

● **Power drive.** The T-1A steel door frames are L&N design. One 10-horsepower GE gear motor and chain drive operates the doors through Enterprise worm gears and L&N clutch arrangement. The motor is dust, water and explosion proof, and operates on 440 volts a.c., 3-phase, 60-cycles.

Trucks are 100-ton ASF A-3 with alternate standard narrow pedestal type side frames for 72 inch wheel centers and equipped with 6½ x 12 roller bearings, 2½ inch travel springs and unit brake beams. Wheels are 38 inch, one-wear wrought steel. Axles are AAR alternate standard machined between the wheel seats. Each truck center plate is lubricated with two ounces of a 50-50 mixture by weight of molybdenum disulphide powder and versol.

Partial list of specialties and materials

Air brake equipment	American Steel Foundries Westinghouse Air Brake Co.
Air brake pipe fittings	Dresser Industries, Inc. Westinghouse Air Brake Co.
Axles	United States Steel Co.
Brake beams	American Steel Foundries
Brake beam wear plates	Unit Truck Corp.
Brake shoes	Griffin Wheel Co.
Brake shoe keys	American Brake Shoe Co.
Brake steps	Apex Railway Products Co. U.S. Gypsum
Bottom connections and brake levers	Schaefer Equipment Co.
Couplers	Symington Wayne Corp.
Draft gear	W. H. Miner Inc.
Hand brake	Ajax-Consolidated Co.
Roller bearings	Hyatt Bearings Div.
Roller bearing grease	Texaco
Side bearings	A. Stucki Co.
Wheels	United States Steel Co.
Pipe clamps	Illinois Railway Equipment Co.
Paint, finish and primer	Glidden Co.
Paint, stencil	Minnesota Mining & Mfg. Co.

REPORT FROM MEXICO

(*Continued from page 17*)
vances are possible."

Just as piggyback service has multiplied freight-car efficiency many times over, Mr. Tennyson said, "so the proper efficient equipment can step up commuting efficiency to a significant degree."

Paul J. Claffey, professor of civil engineering at Catholic University, called for careful planning of urban transport facilities and operations—particularly in view of the tremendous costs associated with such projects.

In North America, he pointed out, "for many years, public transportation has been allowed to deteriorate following the rapid expansion of automobile ownership and operation." Still, he said, the world may be witnessing "the dawn of a great new era of transportation development" in the rapid-transit area.

A rail commutation success story came from F. V. Koval, assistant to the president of the Chicago & North Western, who gave the Congress the well-known C&NW story of how commuter deficits can be cut, or even turned into profits. North Western, he recalled, has poured $46 million into replacement of old coaches with 200 double-deck cars, dieselized its commuter operation, converted to push-pull running—and has come up with profits on commutation in two recent years, to break a long string of annual deficits which had run as high as $2.5 million.

Mr. Koval emphasized C&NW's promotion of its suburban service—involving expenditures of $100,000 per year for advertising—and A. R. Beatty, assistant vice president-public relations of the AAR, put similar stress on promotion for the industry as a whole.

● **Good PR, good service.** Mr. Beatty pointed out that "there is no substitute for good service in developing a favorable public image of a carrier or its industry." But, he said, "no matter how efficiently or economically a railroad may be operated, it does not enjoy good public opinion without good public relations."

Has railroad attention to PR paid off? Mr. Beatty thinks so—based on the evidence of the ballot box (politicians no longer use railroads as a whipping boy); newspaper editorials which are almost unanimously in agreement with many railroad positions; and public-opinion polls which indicate greater awareness of industry problems and ways in which they might be solved.

● **PR's needs.** While railroad PR has been effective, Mr. Beatty said, "there is definite need to expand and intensify the public relations program. This means greater expenditure of money. It means accelerated and increased activities. It means larger public-relations staffs. It means careful and intelligent planning and preparation so the most good can come from every dollar spent and every bit of time and effort exerted."

Stanley H. Barriger, Missouri Pacific industrial engineer, outlined a method of controlling intra-terminal car movement through use of IBM punch cards. Purposes of the program: to reduce clerical operations, to permit more precise planning of switching movements and to provide for more efficient switching operations.

James N. Sites, assistant to the vice president-public relations, AAR, reviewed his study of railroads around the world and asked delegates to adopt a resolution "calling on member governments and the leaders of all forms of transportation to work to bring about public transportation policies that would accord equal starting conditions in competition to all carriers, whether operating on railways, highways, waterways, airways or otherwise."

● **Integrated communications.** R. C. Karvwatt, director of communications, NYC, described his road's planning for a new, integrated communications system covering all major data areas, such as car reporting, freight sales, power distribution—all designed to eliminate much of the mechanical data handling common in many systems.

OFFICIAL OPENING of Congress came when Mexico's President Adolfo Lopez Mateos (left, facing camera), arrived at auditorium where sessions were held. With Mr. Lopez Mateos is Walter C. Buchanan, Mexico's secretary of communications and transportation and president of the Congress' organizing committee.

H. E. Meeker, Baltimore & Ohio industrial engineer, outlined a five-part program for administering capital-expenditures programs, covering budgeting, review and authorization of individual projects, financial evaluation of projects, control of works in progress and a post-completion audit.

V. E. Glosup, assistant vice president-operating and chief engineer of the Milwaukee Road, told delegates of one of the major U.S. railroad efforts to win back traffic—piggyback and auto-rack operations—and how the Milwaukee moved to solve clearance problems arising from use of these new transport techniques.

● **Reports from REA.** Several officers of REA Express submitted papers, including one by James A. Smith, chief engineer, on REA's capital expenditures program and another by E. L. Roncoli, director of REA's security division. Mr. Roncoli, outlining the role of company police forces in railroad operations, touched on a topic close to the heart of railroad police (whose ranks, on a number of properties, have been thinned out): The officer's primary role is to prevent theft and pilferage—but he also has a responsibility to observe and correct "loose operating practices that lead to loss."

J. F. Tripician, retired director of personnel administration of the PRR, described that road's present personnel programs—with the observations that today's competitive problems and technological advances demand policy which was unknown, on many properties, not so many years ago.

Dr. Herschel Cutler, assistant to the AAR economist, filed a paper calling on railroads and other forms of transportation—particularly those in Central and South America—to take steps to protect against the danger of Communist guerrilla attacks.

● **U.S. representatives.** Seven official delegates represented the United States at the XI Pan American Congress—Daniel P. Loomis, president of the AAR and chairman of the U.S. National Commission in the Congress Association; Donald S. Beattie, executive secretary of the Railway Labor Executives' Association; John W. Bush, member of the ICC; Sam H. Flint, general traffic manager, Quaker Oats Co.; James G. Lyne, chairman of the board of Simmons-Boardman Publishing Corp. and editor of Railway Age; Donald L. Manion, president of the American Short Line Railroad Association; and Clarence D. Martin, Jr., under secretary of commerce for transportation. More than 80 other U.S. delegates also attended the Congress as observers.

The Baltimore and Ohio Railroad
Proudly Announces
Completion of a Major Tunnel Improvement Program

CLEARING ALL ITS MAIN LINES FOR HIGHER, WIDER FREIGHT LOADS

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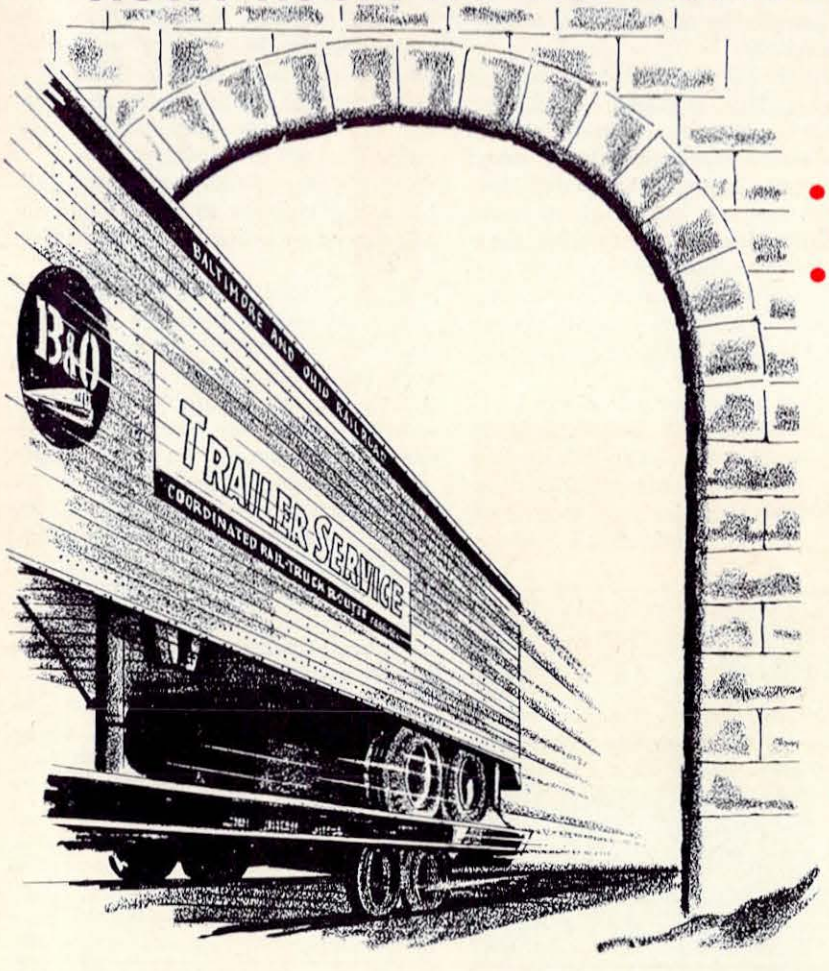


for the handling of all piggyback freight traffic (including the highest trailers in general use on U.S. railroads), giant-sized box cars; also auto-rack cars and larger freight shipments

- **NOW!** B&O has the shortest high-car route to the Southwest
- **NOW!** B&O has the best clearance to the Southwest

. . . and faster service to all parts of the West, through the gateway cities of St. Louis and Chicago

To free all its main lines of clearance limitations, B&O has enlarged or by-passed 54 tunnels or other restricted areas—many located beneath the rugged Allegheny Mountains. Accomplishing an impressive engineering feat, B&O has "moved mountains" and altered the course of rivers, to carve the huge cuts needed for direct routing of out-sized freight loads

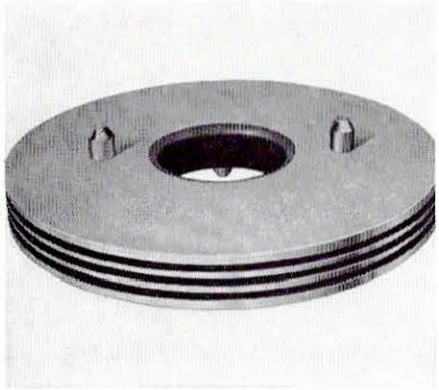
A MAJOR SERVICE BREAK-THROUGH LINKING MARKET AREAS OF THE EAST WITH THOSE OF THE WEST, FOR TODAY'S HIGHER AND WIDER FREIGHT SHIPMENTS

FASTER SCHEDULES . . . ATTRACTIVE RATES

THE BALTIMORE AND OHIO RAILROAD

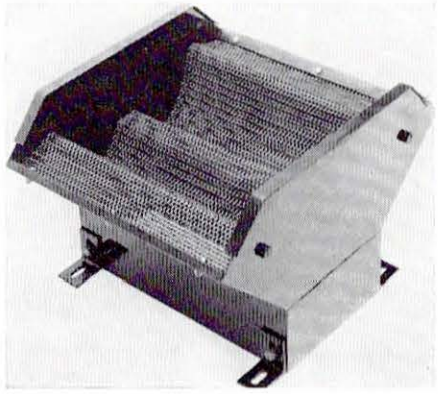
BALTIMORE, MARYLAND

NEW PRODUCTS REPORT



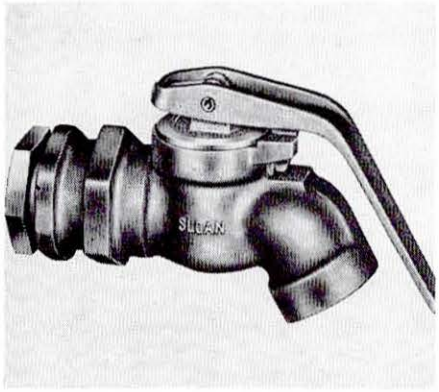
Center-Plate Bearing (RA-1)

A laminated elastomeric bearing for car center plates, which has been in development test with two large railroads for several months, is designed to eliminate galling and reduce turning torque. This, it is said, will end the need for lubrication and reduce periodic maintenance. Low lateral forces on wheel flanges and journal bearings when the trucks turn are additional benefits indicated by the test. *Lord Manufacturing Co.*



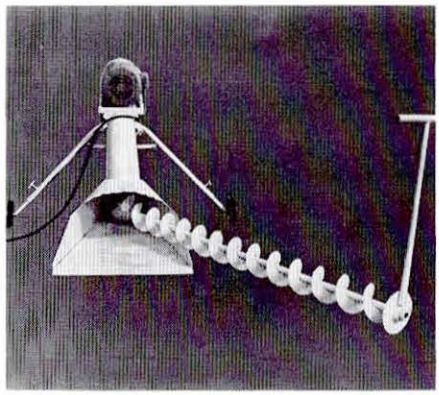
Spark Arrester (RA-2)

During throttle or load changes in train operation, the Super Spark Arrester is said to break and sift particles entrapped in the mesh, eliminating clogging. Filtration effect is the same as rigid mesh. The open area around the manifold outlet serves as a venturi to eliminate engineroom gases. In tests, the arrester, which is available for all makes and models of locomotives and conversions, created no exhaust back pressure. *Super Co.*



Angle Cock (RA-3)

A synthetic rubber seal held against a cast-brass ball by a spring washer automatically compensates for wear and maintains a positive seal in the redesigned Sloan-Caco brake-pipe angle cock. The cock has AAR approval for limited interchange service. With its compression fitting, it can be assembled to accommodate either an unthreaded or threaded air pipe. It can be repaired on a bench by the replacement of inexpensive parts. *Sloan Valve Co.*



Reclaiming Auger (RA-4)

A portable auger, designed to speed movement of bulk material from storage piles, box cars and bins, is said to offer substantial savings especially when used with Speed King BeltVeyor. The device consists of a 5-in.-diameter spiral drag auger with a manual control handle at pickup end, attached through a universal joint to an 8-in. tube 8 ft long that discharges materials into pickup end of a longer conveyor or augur. *Speed King Mfg. Co.*

RAILWAY AGE WEEKLY

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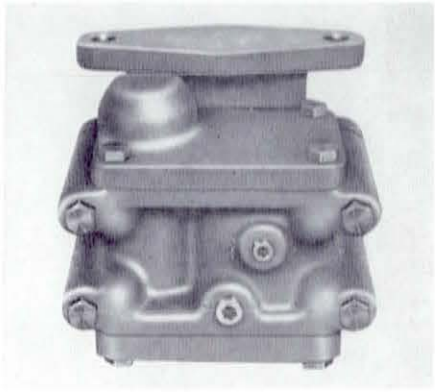
NEW PRODUCTS REPORT

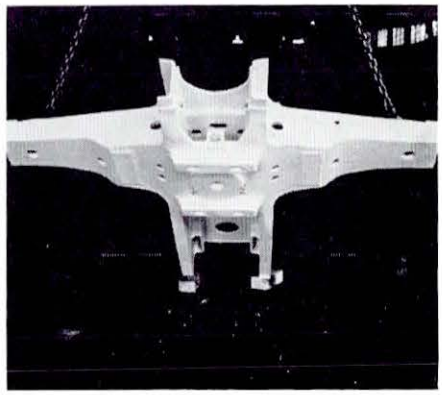


Safety Control (RA-5)

The Wabco safety control system for locomotives includes small valves and devices interlocking with air-brake system through the medium of a foot pedal and connected whistle. When brakes are applied normally, pedal pressure may be released, but when running over the road foot pedal must be depressed to avert brake application. The system can be adjusted to require continuous foot pedal pressure, or to permit occasional relaxing of pressure for several seconds during which a whistle warns engineman. Failure to restore foot pressure within this interval will result either in a full service brake application, or a faster, more intense emergency application. Provision can be made for simultaneous power cut off and prevention of release of brakes (charging cut-off) until a full stop is made. The A-1 cycling valve, illustrated, can be incorporated in system to safeguard against collapse of engineman on foot pedal or other interference with normal supervision. It operates from multiple stations on locomotive. *Westinghouse Air Brake Co.*

Strapping Station (RA-6)

The Dispensi-Pak, weighing slightly more than 2 lb, is a portable, self-contained strapping station. It contains a 300-ft coil of Dymax, a non-metallic strapping made from a strengthened form of nylon, and 50 self-sealing nylon Dylocks which permit tensioning of Dymax without a tool. The Class 502 strapping has a breaking strength of 475 lb, an elongation of 12 to 15%, and almost total elastic return. *Signode Steel Strapping Co.*



Impacting Device (RA-7)

Air consumption of the Thumper, a slow, heavy-blow impactor, is ½ cfm striking 20 blows per minute. The device is available in three sizes: T-300, T-400 and T-500. A fractional-horsepower compressor is said to give enough force and frequency to unload many types of materials from hopper cars, dust collectors, and other containers. Impact is controlled by adjusting air pressure on inlet side. Weights range from 30 to 63 lb. *Martin Engineering Co.*

Underframe Ends (RA-8)

Cast-steel, one-piece underframe end castings can now accommodate various types of hydraulic cushioning systems applied to freight cars. One design permits use of hydraulically cushioned sliding sills; in another, end-of-car hydraulic cushioning arrangements can be installed. Draft sill, body bolster and center plate are incorporated in both types. Casting shown is applied to UP 90-ton box cars equipped with the Keystone Shock Control sliding sill. *General Steel Industries.*

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11/4/53

Market Outlook

Carloadings down 0.3% From Previous week's

Loadings of revenue freight in the week ended Oct. 26 totaled 624,581 cars, the Association of American Railroads announced on Oct. 31. This was a decrease of 1,599 cars, or 0.3%, compared with the previous week; an increase of 9,949 cars, or 1.6%, compared with the corresponding week last year; and a decrease of 22,968 cars, or 3.5%, compared with the equivalent 1961 week. Ton-miles generated by carloadings in the week ended Oct. 26 are estimated at 13.8 billion, an increase of 6.5%, over the corresponding week of 1962, and 7.2% over 1961.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Oct. 26

District	1963	1962	1961
Eastern	86,707	83,031	90,906
Allegheny	99,981	94,933	102,894
Pocahontas ...	57,987	51,630	55,964
Southern	119,408	118,016	117,847
Northwestern .	86,535	88,651	95,403
Central Western	130,436	134,064	137,544
Southwestern ..	43,527	44,307	46,991
Total Western Districts	260,498	267,022	279,938
Total All Roads	624,581	614,632	647,549
Commodities:			
Grain and grain products ...	65,736	65,485	60,439
Livestock	7,156	9,431	8,904
Coal	117,541	110,182	116,603
Coke	6,769	5,957	7,535
Forest Products	39,001	38,533	39,536
Ore	44,068	36,424	46,664
Merchandise l.c.l.	16,121	22,240	27,483
Miscellaneous .	328,190	326,380	340,385
Oct. 26	624,581	614,632	647,549
Oct. 19	626,180	613,226	650,958
Oct. 12	635,596	606,881	642,155
Oct. 5.....	632,049	594,775	639,784
Sept. 28	620,139	596,852	637,294
Cumulative total, 43 weeks ..	24,035,918	24,000,350	23,664,850
Estimated revenue ton-miles (millions) 43 weeks ..	517,800	493,300	465,400

PIGGYBACK CARLOADINGS.—U.S. piggyback loadings for the week ended Oct. 19 totaled 16,918 cars, compared with 15,466 for the corresponding 1962 week. Loadings for 1963 up to Oct. 19 totaled 644,449 cars, compared with 568,174 for the corresponding period of 1962.

IN CANADA.—Carloadings for the seven-day period ended Oct. 14 totaled 72,006 cars, compared with 82,530 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Oct. 14, 1963	72,006	22 431
Oct. 14, 1962	66,750	22,325
Cumulative Totals		
Oct. 14, 1963	2,806,493	906,909
Oct. 14, 1962	2,816,889	940,889

New Equipment

FREIGHT-TRAIN CARS

► *Bangor & Aroostook.*—Will purchase 100 large mechanical refrigerator cars equipped with cushion underframes, load divider gates, aluminum floor racks and roller bearings, at a cost of approximately $3 million.

► *Burlington.*—Ordered 50 steel cabooses from International Car for delivery in the first quarter of 1964.

► *Clinchfield.*—Ordered 800 70-ton, 3,200 cu-ft-capacity hoppers from ACF for an estimated $8,750,000. Delivery will be made in the first quarter of 1964.

► *Frisco.*—Ordered 100 70-ton boxcars, equipped with roller bearings, cushion underframes, movable bulkheads and side fillers, from General American at a cost of approximately $2 million, for delivery in the first quarter of 1964.

► *Missouri Pacific.*—Ordered 1,550 freight cars at a total cost of approximately $23,300,000: 400 100-ton Center Flow steel covered hopper cars and 100 60-ft box cars from ACF, $7 million; 400 100-ton steel hopper cars from Bethlehem steel, $4,870,000; 200 100-ton aluminum cars for handling bulk materials, from Magor, $3,720,000; 200 100-ton steel gondola cars from Constructora Nacional de Carros de Ferrocarril, Ciudad Sahagun, Mexico, $2,400,000; 100 70-ton 60-ft cast steel flat cars from General Steel Industries, $1,500,000; 100 70-ton mechanical refrigerator cars from Pacific Car & Foundry, $3 million; and 50 70-ton 50-ft insulated, compartmentized box cars from General American, $882,000. Another 200 cars will be ordered later at an estimated cost of $6 million, bringing MP's total 1964 expenditures for locomotives and freight cars to approximately $37 million. (Railway Age, Oct. 28, p. 51)

► *Norfolk & Western.*—Ordered 50 4,000-cu-ft capacity Center Flow covered hopper cars from ACF for a total cost of more than $700,000. The cars, largest of their type to be bought by the N&W, will be used to transport soda ash, lime and other chemicals. Deliveries will begin in December.

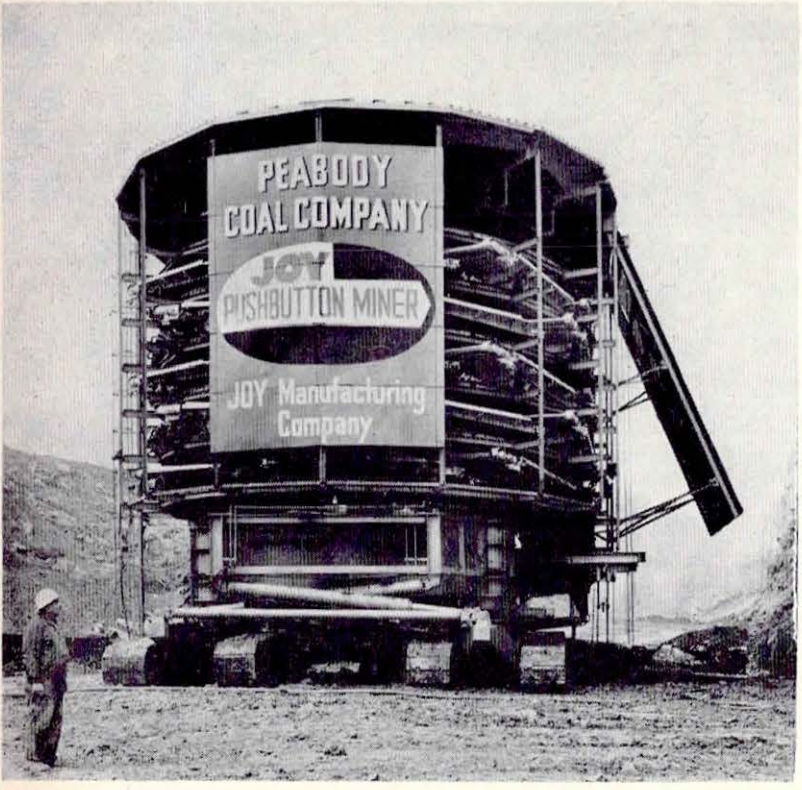
LOCOMOTIVES

► *Missouri Pacific.*—Ordered 25 2,500-hp diesel electric road units and 25 1,200-hp switching units from EMD at a cost of about $7,730,000.

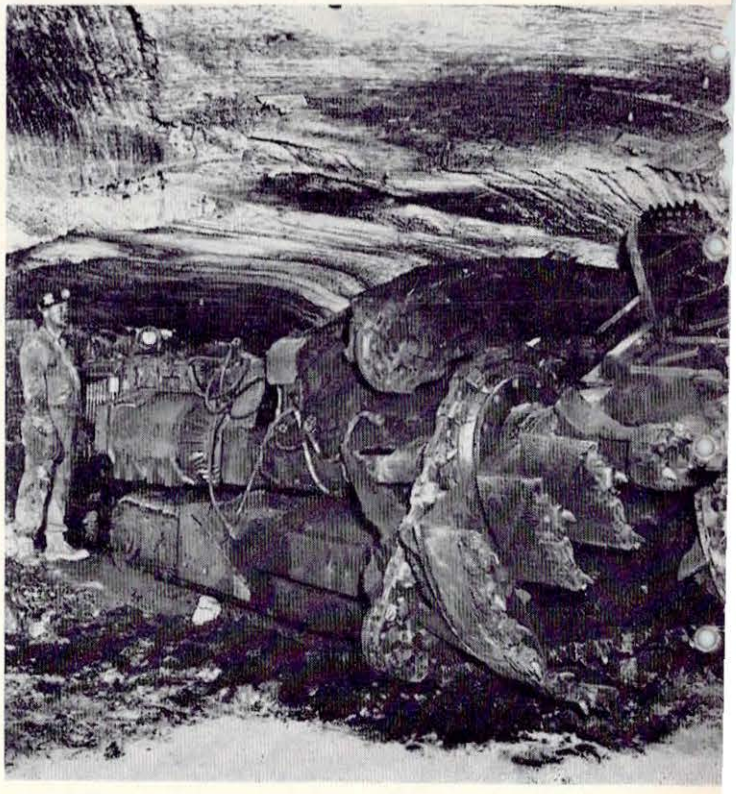
NEW FACILITIES

► *Toronto Transit Commission.*—Tenders are being asked for the manufacture, supply and installation of block signal and interlocking equipment for the Bloor-Danforth Subway, together with some miscellaneous work connected with the project. Sealed tenders on the Commission's form of tender must be received by the Toronto Transit Commission, 1900 Yonge Street, Toronto 7, Canada, by Nov. 18, 1963.

A unit train of coal snakes its way along the B&O, enroute from mine to consumer.



Mining with a 45-foot-high pushbutton.



The twin borer: 8 to 12 tons of coal a minute.

THE UNIT TRAIN

Key to coal's survival?

Coal is now getting a fighting chance for a comeback in the highly competitive fuels market, thanks to the unit train.

As dusk settled over Valley Camp Coal's Elm Grove mine, eight GP-30s, humming in unison, eased 95 70-ton hoppers loaded with black gold from the West Virginia hills down the spur. A scant 27 hours later Baltimore & Ohio unit train 824 rolled into Philadelphia Electric's Eddystone generating station with 7,000 tons of coal delivered at passenger-train speed and at rates which promise to usher in a new era for both the beleaguered coal industry and the railroads.

In the stiffly competitive fuels market, transportation is the key to survival. And, while it is still far too early for overly optimistic predictions, there is already evidence that the unit train is putting the coal industry back in competition with residual oil in the important electric utility market.

The unit-train concept is rapidly gaining popularity with both shippers and receivers of bituminous coal. Since B&O launched its new service last April business has steadily increased. In April, the first full month of operation, B&O rolled 94 units (7,920 carloads) out of the Appalachian coal fields. In September, the number was up to 124 (12,363 carloads) and the total number of unit trains scheduled was expected to hit 874 by the end of October—the first six months of operation.

Most of the other major coal-hauling roads have been quick to follow B&O's lead in the drive to expand coal's market by reducing delivered costs.

- The New York Central, for example, is running unit trains from central Pennsylvania to North Bergen, N.J., and between the Indiana coal fields and Commonwealth Edison's Hammond plant.
- The Chicago, Burlington & Quincy plans to use 100-ton hoppers to shuttle coal from Old Ben Coal Corp.'s new mine at Benton, Ill., to a Missouri utility under a 20-year contract for 1.5 million tons a year, which will add over $80 million to the road's freight revenues.
- The Boston & Maine reports for the first time in history an all-coal train from the West Virginia mines to the Merrimac Station of Public Service in New Hampshire.
- The Gulf, Mobile & Ohio plans to deliver coal by unit train from the Belleville, Ill., area to Commonwealth Edison's plant at Joliet.
- The Norfolk & Western is operating 7,730-ton unit trains virtually nonstop from Roanoke for delivery to Commonwealth Edison at South Amboy. N&W, which recently put into operation a new $25 million coal pier at Norfolk, Va., is planning to start building, around Dec. 1, 1,500 95-ton hoppers at an estimated cost of $15.5 million.
- In one of the most significant recent moves in the unit-train concept, Pennsylvania Power and Light has placed a $1 million order with Bethlehem Steel for 74 100-ton hoppers for delivery next February. The 74-car unit train, which will haul in excess of 7,000 tons, will be operated over the Pennsylvania from mines at Tunnelston and Osceola to generating stations at Martins Creek near Easton and at Brunner Island below Harrisburg. Under the arrangement, the Pennsylvania is providing five locomotives and is slashing its coal rates by 40%.

"The unit train," says Pennsylvania Power Chairman Charles Oakes, "is a major breakthrough in cutting our fuel costs which total close to $20 million annually. It offers several opportunities to reduce shipping costs, the greatest being in speeding up the turn-around time when empty cars are returned to their original shipping point in about 2 days as compared with the former 14 or 20 days. The fast turn-around time is made possible by highly mechanized loading equipment at the mines and high-capacity unloading equipment at the generating plants—the savings being in the more efficient utilization of transportation equipment."

In many cases the new unit train rates, ranging up to reductions of $1.50 a ton, are already enabling utility companies to provide cheaper electricity to consumers.

- Philadelphia Electric, for example, recently announced rate reductions amounting to $7.7 million a year. Of this amount $4.4 million was attributed to lower transportation costs made possible by the unit train.
- Iowa Electric Power and Light has slashed its residential rate by 5.3% or $600,000 a year, as a result of lower transportation costs and the increased efficiency of its newest coal-fired generating units.
- Commonwealth Edison of Chicago has announced that savings from lower coal rates will amount to several million dollars a year, all of which will be passed on to consumers.
- **Coal's fight for survival.** The rail and bituminous industries are locked in a partnership which, over the past few years, has given neither much to cheer about.

Hit hard by competition from cheap imports of residual oil and natural gas, coal production has slipped from 1947's 631 million tons to an annual average of slightly over 400 million tons. The coal industry estimates that it needs minimum sales of 500 million tons a year to survive.

But there is at least tentative evidence that coal is on the comeback trail. Production this year is expected to reach 440 million tons, the highest in six years, and coal spokesmen are predicting that production will double by the 1980's.

Behind coal's comeback is a story of mechanization, an energetic export sales drive and a new spirit of competition in the railroad industry.

Last week, for example, a pushbutton miner—a machine that looks more like a portable parking garage than equipment to tackle coal mining—was

busy stripping coal from veins in southern Ohio. Operated by one man, a remotely controlled boring machine, followed by a train of special cars which conveyed the coal to waiting carriers, cut 1,000 feet under a giant highwall to bring out coal that was once considered too uneconomical to mine by normal stripping methods.

Mechanization has made the U.S. coal industry the most efficient in the world. The average production per shift in American mines today is around 14 tons compared to only one or two tons per shift in European mines.

It is this factor which has largely accounted for the success American coal has had in penetrating foreign markets. U.S. coal exports are currently running at the rate of 40.8 million metric tons for 1963, and a recent Department of Interior study forecasts a potential export market of 73 to 150 million metric tons a year by 1970.

To aid the coal industry in achieving this objective, the U.S. government is planning a major drive aimed at eliminating restrictions which many foreign governments have imposed on coal imports to protect their domestic industries. Plans to stimulate coal exports were mapped at a meeting of coal, government and transport representatives in Washington on Oct. 28.

● **Competition in the market place.** Even a larger export market, however, will not solve all of the coal industry's headaches. Since the drastic decline in the use of coal for home heating, the electric utilities have become coal's number one customer, accounting for at least half of current total production. And the utility market is a sharply competitive one.

Oil troubles the waters

Imports of residual fuel oil will cost the coal industry an estimated 50 million tons this year, perhaps more next. A government control program set up in 1959 to limit imports to 343,000 barrels per day has failed to stem the inflow. Current imports of residual fuels are running around 575,000 barrels per day and the coal industry, despite considerable backing in Congress, has been unable to push through legislation to stem the tide.

Another major threat to coal's future is the atomic power industry. The Atomic Energy Commission has poured some $1.3 billion into research and subsidies to develop nuclear energy as a major competitor in the power field.

On terms of economic feasibility, coal is still far ahead. The most economical commercial nuclear plant is the Yankee Atomic plant at Rowe, Mass., which is turning out electricity at 10 mills per kilowatt. Coal-fired plants, based on 1961 prices, averaged 5.2 mills to 7.6 mills per kw, and the cost is even lower today.

Coal prices, as a matter of fact, are lower today than they were five years ago, thanks to increased mining efficiency and lower rail rates. Since 1957 the average price of bituminous at the mine has dropped from $5.08 to $4.48, while average rates on bituminous originated by Class I roads have declined from $3.58 to $3.37. Over the five-year period these two factors have reduced the price of delivered coal from $8.66 to $7.85, a figure that will be cut even lower by the unit train.

● **The growing atomic cloud.** Despite the continual decline in coal prices and estimated U.S. reserves of some 800 billion tons, AEC is pushing its atomic power program at top speed, now plans the construction of 12 new plants aimed at replacing coal with nuclear fuel at a cost of $1.5 billion.

To protect itself against AEC's onslaught, the coal industry today is pushing for an extensive federal-research program aimed at the use of coal as a raw material for gasoline and pipeline gas.

"Research on diesel engines lost the railroads as a consumer of coal," says Eric Reichl, vice president-research of Consolidated Coal Co. "Research on pipelines lost the space heating market. Researching in steelmaking is shrinking the use of coal in coke ovens. And now the United States is in the midst of a multi-billion dollar research program which threatens all fossil fuels, but quite uniquely coal, in the electric utility industry.

"It is not safe," says Mr. Reichl, "for coal to expect that the utility power market alone will assure it an adequate growth and share of the energy business. There is an adequate margin between the price of coal at the mine and the sale of energy in the form of gas and liquid to warrant an all-out research effort in that direction."

Recently, however, the coal industry, has been concentrating on slashing transportation costs as an immediate remedy to its competitive problems. Rails still haul 75% of all U.S. coal, but declining production and increased competition from water carriers has cut revenue tonnages sharply.

Rail coal traffic is also being threatened on other fronts: the proposed billion-dollar waterway to connect Lake Erie with the Ohio River: the much talked-about coal pipeline from the Appalachian coal fields to the eastern seaboard; and the prospective construction of "coal-by-wire" transmission facilities.

● **Enter the integral train.** Faced with these prospects, B&O in 1961 began experimenting with the integral train, ran some 225 6,000-9,000 ton test trains between mines and eastern generating stations in an effort to develop a system that would move coal at rates low enough to meet the threats of any competition.

Following completion of its tests, B&O last March published trainload rates on bituminous steam coal moving from the northern Appalachian fields to eastern destinations providing reductions of $1.25 to $1.50 per net ton under normal carload rates for trainload consignments of 7,000 or more net tons, and reductions of 85 cents per ton for consignments of 4,500 tons.

In publishing its new unit-train rates, B&O eliminated the "frills", such as weighing of coal or blending at destination, and shippers and receivers must load and unload trains within 24 hours to qualify for the lower rates.

Supermarketing coal

To enable smaller shippers to participate in the lower rates, B&O has set up an assembly point plan of operation, designating 12 assembly points which follow the natural flow of coal traffic over the rails to the East and which conform geographically to the most efficient gathering service. Without efficient fast gathering service planned around these fixed points, it would be impossible to achieve the degree of improvement in car utilization upon which the economics of the unit-train concept depend.

Under this plan, a mine may contribute as little as one carload to a 7,000-ton train provided the car can be loaded in 24 hours, and that the consignment is originated at mines tributary to one of the assembly points.

B&O originally launched its unit train service with 3,200 70-ton hoppers, has since increased this to 3,600 as business picked up. The road is also ordering or building 4,500 new hoppers—4,000 of which will be capable of handling 80 tons and many of which will bear the distinctive gold stripe signifying B&O unit-train service if business continues to increase as it has in the past six months.

● **The 7-day turn-around cycle.** Car utilization is, of course, the key to unit-train economics. B&O unit-train equipment during September averaged 7.2 days turn-around time, including long-distance moves to New England points. Prior to inauguration of the unit trains, turn-around cycles averaged 16 to 27 days with most of the important movements taking over 20 days. With the 7-day cycle virtually achieved, B&O estimates that its original 3,200 unit-train hoppers will move 10.5 million tons of coal over a 12-month period, a goal that would have required 2½ times as many cars previously.

PEOPLE IN THE NEWS

ASSOCIATION OF AMERICAN RAILROADS.—**Patrick H. Mathews** appointed an assistant vice president and will continue on the staff of **Tom Pickett,** vice president. Mr. Mathews has served the AAR since 1948 as an aide on legislative matters.

LEHIGH VALLEY.—Has taken final steps in streamlining its operation by establishing transportation department headquarters at Bethlehem, Pa., effective Nov. 1. The LV had been operating with two divisions—one with a superintendent at Buffalo, N.Y., and the other with headquarters at Jersey City.

On Aug. 1, all freight stations were realigned under a superintendent of stations, reporting to the vice president of traffic.

On Sept. 1, the mechanical department was placed under jurisdiction of chief mechanical officer at Sayre, Pa., and the maintenance of way department was placed under the chief engineer, Bethlehem, Pa.

On Oct. 1, the police department was realigned on a system basis.

Under the new transportation set-up, the LV will be operated as a single system unit with the superintendent of transportation and his top aides at Bethlehem having jurisdiction over movements over the entire road.

Andrew J. Ferentz heads the transportation department as superintendent of transportation. He will be assisted by **John E. Crowley,** as assistant superintendent. Mr. Ferentz was formerly superintendent at Jersey City and Mr. Crowley at Buffalo.

Other officers at Bethlehem will be: **Arthur F. Doody,** supervisor of train movement; **Darrell R. Smith, George F. Barry** and **George F. Simons,** assistant supervisors of train movement; **F. J. Jackson,** supervisor of diesel control; **J. W. Breslin,** supervisor of car distribution; **R. A. Taubar,** supervising operator and rules examiner, and **N. J. Jamicola,** chief clerk.

FRENCH NATIONAL RAILROADS.—**Jacques Bucher,** general manager in North America, at New York, has announced the opening of a new branch office in Chicago, at 11 East Adams Street. **Claude Dubor,** assistant manager for Canada, appointed Midwestern regional manager and head of the new office. **Ernest Defferard,** of the New York office, appointed assistant Midwestern regional manager.

NEW YORK CENTRAL.—**Raymond R. Manion,** assistant to the president, New York, named vice president, Washington, D.C., effective Dec. 1, succeeding **Lawrence W. Horning,** who is retiring after 47 years of service.

On Oct. 14 the NYC announced a complete modernization of its rate-making and related pricing activities. Heading up a team of specialists will be **Charles V. Sheriff,** appointed to the new position of general manager of pricing. Mr. Sheriff was formerly director of rates. **Arthur J. Crookshank** appointed to the new position of assistant vice president—pricing and will specialize in specific pricing activities related to the NYC's major accounts. Five new managers of pricing have been appointed to assist Mr. Sheriff: **Hector O. Williams,** general manufactured and miscellaneous commodities; **Mark L. Kelly,** Flexi-Van, trailer-on-flat-cars, and other van services; **William R. Noll,** coal, coke, ore and other bulk commodities; **Theodore E. Kiefaber,** division of rates between carriers; and **T. B. Graves, Jr.,** administration and services.

SOUTHERN.—**John L. Stover,** special representative in the office of the assistant to the president, appointed manager, public relations, with headquarters remaining at Washington, D.C. Mr. Stover is a former associate editor of Railway Age.

WABASH.—**Henry W. Large,** former vice president and regional manager, Northwestern Region, **Pennsylvania,** Chicago, was elected president of the Wabash, at St. Louis, Mo., effective Oct. 1 (RA, Sept. 9, p. 5). Mr. Large succeeded **Herman H. Pevler,** who became president of the **Norfolk & Western** at Roanoke, Va., on the same date. Mr. Large was born in Philadelphia in 1905 and was graduated from Princeton University. His entire business career has been with the Pennsylvania. He served with the U.S. Navy during World War II. Upon his return to the PRR Mr. Large was appointed freight traffic manager at Detroit in 1945; general coal traffic manager at Philadelphia in 1948; assistant vice president—traffic at Philadelphia in 1953; assistant vice president—freight sales in 1955 and vice president and regional manager at Chicago in July 1959.

Supply Trade

William G. Miller, president of **Alco Products, Inc.,** Schenectady, N.Y., since 1961 and chief executive officer since July 1962, was elected chairman and chief executive officer on Oct. 24. **William F. Lewis,** executive vice president since Feb. 1962, was elected president and chief operating officer.

E. M. Van Winkle has been elected vice president, **National Lead Co.** and will continue in his present positions as president of **Magnus Metal Corp.,** National Lead subsidiary, and general manager, Magnus Metal Division of National Lead, at New York. **B. H. Sullivan, Jr.,** has been appointed assistant general manager, Magnus Metal Division, Chicago, in addition to his duties as vice president of Magnus Metal Corp.

John F. Burditt and **Henry A. Correa** have been elected vice presidents, executive department, **ACF Industries, Inc.,** New York. Mr. Burditt was treasurer and Mr. Correa, vice president—marketing. **John S. Carlson,** director of sales, Shippers' Car Line Division, named a corporate vice president and general manager of that division, succeeding **Henry V. Bootes,** retired.

Patrick H. Mathews
AAR

Raymond R. Manion
NYC

John L. Stover
Southern

Henry W. Large
Wabash

William G. Miller
Alco

William F. Lewis
Alco

OBITUARY

James R. Foreman, retired director of publications, **Vapor Corp.,** died Sept. 6.

James J. Hickey, director of passenger sales, **Western Pacific,** San Francisco, died Oct. 22.

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YOU OUGHT TO KNOW

Senate committee hearings on the minimum-rate bill and other recommendations of President Kennedy's transportation program were concluded Oct. 24. The hearings were conducted by the Surface Transportation Sub-Committee of the Senate's Commerce Committee. At the closing session, Under Secretary of Commerce for Transportation C. D. Martin, Jr., urged favorable committee action on the program. Water-carrier and trucker testimony in opposition has been "defensive" Mr. Martin said. "They fear and resist change," he continued, adding: "those whose rates are sheltered from competition, those whose operating territory is restricted so that they serve mainly the profitable traffic, or those who have stood under rate umbrellas, are bound to be satisfied with their lot."

Canadian National's official opening of its $9-million Matagami branch line brings the booming mining center 400 miles northwest of Ottawa into rail contact with the rest of Canada. Zinc and copper mines approaching a production of 5,000 tons of ore a day will be shipping concentrates to new refineries at Valleyfield, Que. A major engineering job on the 61-mile line was construction of a 953-foot bridge, requiring 1,300 tons of structural steel, over the Bell River.

Claiming losses of about $250,000 per year, the Pennsylvania has filed application with the Pennsylvania PUC to discontinue the 19 commuter trains it operates in the Pittsburgh area. PRR, unable to get an agreement with public agencies to keep the trains running, has tried before to drop the service. ICC authorization in 1962 permitted the road to discontinue nine trains, the state PUC gave its OK to stop another pair this year. PRR's remaining 19 operate over five lines radiating from the central city.

Fines totaling $34,400 were paid in September by 25 railroads for 139 violations of the Safety Appliance, Hours of Service and Explosives and Combustibles acts. Biggest payers, according to the ICC, were Southern Pacific, $6,000; Chicago & North Western, $4,500; and Kansas City Southern, $4,000.

A faster freight schedule from Chicago to Seattle has been inaugurated by Milwaukee. A daily train will make the trip in 55½ hours, which Milwaukee says is the fastest Chicago-Seattle freight service ever offered. A second section of the train will continue to operate on a 77-hour schedule, serving intermediate points. The first section will make pickups in Milwaukee, Twin Cities, and Aberdeen.

The Baltimore & Ohio last week reopened its main line between Clarksburg and Parkersburg, W. Va., to through traffic. Over the past five months 18 tunnels on the 80-mile section have been enlarged or bypassed to permit handling of higher piggyback trailers and automobile rack cars. The Clarksburg-Parkersburg project marked the completion of a two-year $12-million systemwide clearance program involving the modernization or elimination of 54 bridges, tunnels and other restrictions to give the road a minimum clearance of 17 feet, two inches on all main lines. The improvements, says B&O President Jervis Langdon, Jr., will give B&O the shortest high-car freight route between the east and southwest.

The Russians are extending the Moscow subway system 16¾ miles, extending four lines in the system. Another three sections will be built by 1965. When all seven sections have been completed, the system will be 87 miles long with 82 stations. Priority will be given in subsequent plans to two sections linking suburban housing areas with factory districts.

The computer system to be installed by the Atlantic Coast Line will enable the road to keep constant tab on more than 30,000 freight cars moving over 5,500 miles of track. Heart of the system will be a random access memory unit at Jacksonville, Fla., on which waybill information and movement data will be stored. In addition to prompt car location information, the new IBM computer system will handle car accounting, furnish train and locomotive operation records, prepare interchange reports, and handle other car and train performance statistical reporting.

Railroads, eastern and western alike, are getting set now for the expected passenger-travel boom that will come when the New York World's Fair opens next year. Earl B. Padrick, chairman of the Western Railroad Passenger Association and the Rail Travel Promotion Agency, told the 33rd World Travel Congress in Mexico City that a number of roads will have new or rebuilt equipment in service by the time the Fair gets underway—among them Santa Fe, Pennsylvania and New York Central.

Teletype messages are now being automatically switched on the New York Central since its Collins Radio Co., $1.5 million Data Central went into service Oct. 15. The electronic switching center, at the road's New York headquarters, also provides for message accounting, priorities and traffic requirements for the Teletype system connecting 259 message and data sending and receiving points over NYC's 10,300 miles of line.

Substantial relief from report filing with the ICC will come Jan. 1. The Commission's Division 2 last week issued an order which, as a Commission press release put it, "will result in a 47% reduction in the number of quarterly reports and an 81% reduction in the number of reportable items in 1964." New Forms OS-A, Train and Yard Service; OS-B, Revenue Traffic; and OS-C, Motive Power and Equipment, will replace seven forms, i.e., OS-A through OS-F, and APT (Analysis of Passenger Traffic).

Freight and Passenger Car Charts

These charts are very helpful to AAR billing clerks, mechanical engineers, purchasing and stores personnel, car inspectors, write-up men, car foremen, and anyone else who needs a knowledge of car parts and their relation to each other.

The charts include a cutaway diagram of the car and a listing of important parts with arrows showing where the part is located. These charts are a part of standard training programs used on a number of major railroads.

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Quill has smug company

Is it any more unsound for taxpayers to pay cost of transit rides, seeing how they extend similar charity to waterway users?

All over the world billions are being poured into additions and improvement to transportation facilities. And no nation, yet, seems to have come up with a satisfactory method for dividing its capital investment economically among the various modes of transportation—to get the most service with the least outlay of scarce resources.

Bringing up the end of the parade of countries, in the order of their skill at economic allocation of capital to the several types of transportation, tags along the good old U.S.A. In this area we are acting like a youngster ordering a restaurant meal for himself for the first time: Emphasis on fancy desserts, and not on the substantial victuals.

This is no Cloud 9 problem, but one of vital practical importance. On its successful solution depends the prosperity of the railroads (in particular); and perhaps their continued existence.

The ideal solution (theoretically) to the problem of allocation of resources, of course, is to leave the responsibility entirely to private initiative and free competition. This would mean that there would be no highways, or waterways, or airports or railroads—except those built by private enterprises with their own money. It would also mean that competitive facilities could be built anywhere—regardless of wasteful duplication.

Transportation facilities have never been developed on such a completely competitive basis; and nobody advocates it now. Even in the early days of railroad building, the device of the "franchise" was used to prevent competition from duplicating facilities recklessly. Some economic problems can be solved only by compromise.

No city needs 10 or 20 or 30 railroads—and never did. There is no danger of that kind of waste, so far as railroads are concerned. All their investments come from private individuals, who are not going to put their savings into property that does not seem likely to pay an attractive return.

But what comparable economic discipline is being exercised over investments in improved highways, or waterways, or airports?

The zealots in government for these varieties of transportation get their hands on billions of tax money, and proceed to go out and spend it. No direct payments are exacted of the users of the facilities thus provided—so experience can prove whether they were economically justified or not.

Spend, spend, spend—the sky's the limit. And some poor fellow driving his jalopy or farm truck on a gravel road out in the hills (and getting set back for three times the normal amount of fuel tax) is paying for the fancy cloverleaf installations that speed big trucks through and around the cities.

The objective of the "interstate highway system" seems to be to provide between all centers of population a direct highway, good for 60 mph or more. And to levy as little as possible of the cost of such highways on the vehicles that actually use them. To top off this economic absurdity, along has come Boss Quill of the Transport Workers Union—proposing that cities provide rapid transit service for free—collecting the cost from levies on real estate, and other taxes.

A lot of alleged capitalists try to treat Quill as a clown—but how is his proposal any more ridiculous economically than, for instance, providing toll-free waterways for a lot of opulent corporations? People inclined to laugh Quill off could find just as much (if they'd look around) to ridicule in the policies toward highway and waterway financing being advocated by business leaders who look upon themselves as righteous defenders of free and competitive enterprise.

In countries which are frankly socialistic, government allocates investment among the various forms of transportation; and in such countries the railway investment usually fares relatively better (in ratio to other forms of transport) than it does in the U.S. But no U.S. railroad people that we know of want to pay the price of being socialized—in return for the seductive boon of getting unlimited "easy money" from the taxpayers—as highway and waterway people are doing.

Half capitalistic, half socialistic

The highway and waterway people have developed a compromise between capitalism and socialism. They are socialists as far as fixed plant is concerned and intensively capitalistic as to the ownership and operation of their vehicles. The railroads are capitalistic as to both—but how long they can stay that way and keep their fixed plant competitively modernized is certainly questionable; unless investment in other forms of transport is soon subjected to more rigorous economic discipline than now prevails.

America is in an international contest in productive efficiency with countries controlled by socialist dictators. We usually assume, complacently, that we are winning this contest (and perhaps we are on some fronts, e.g. agriculture). But the contest could be lost on the transportation front. It probably will be lost there unless America develops more wisdom than it has shown yet in this sector.

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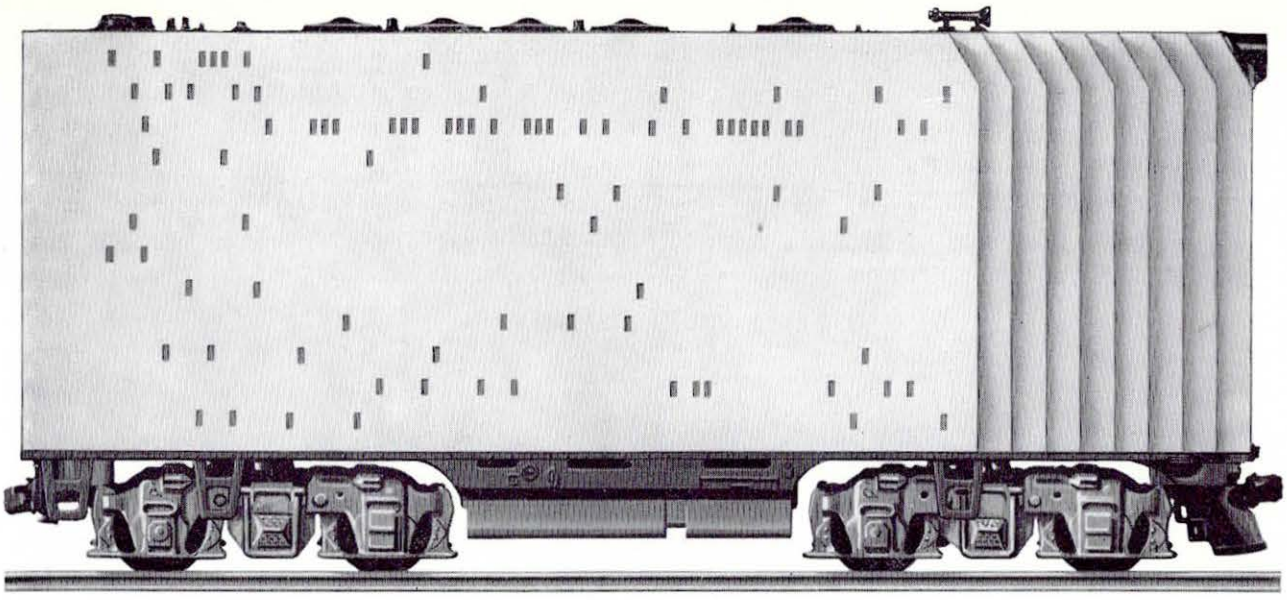

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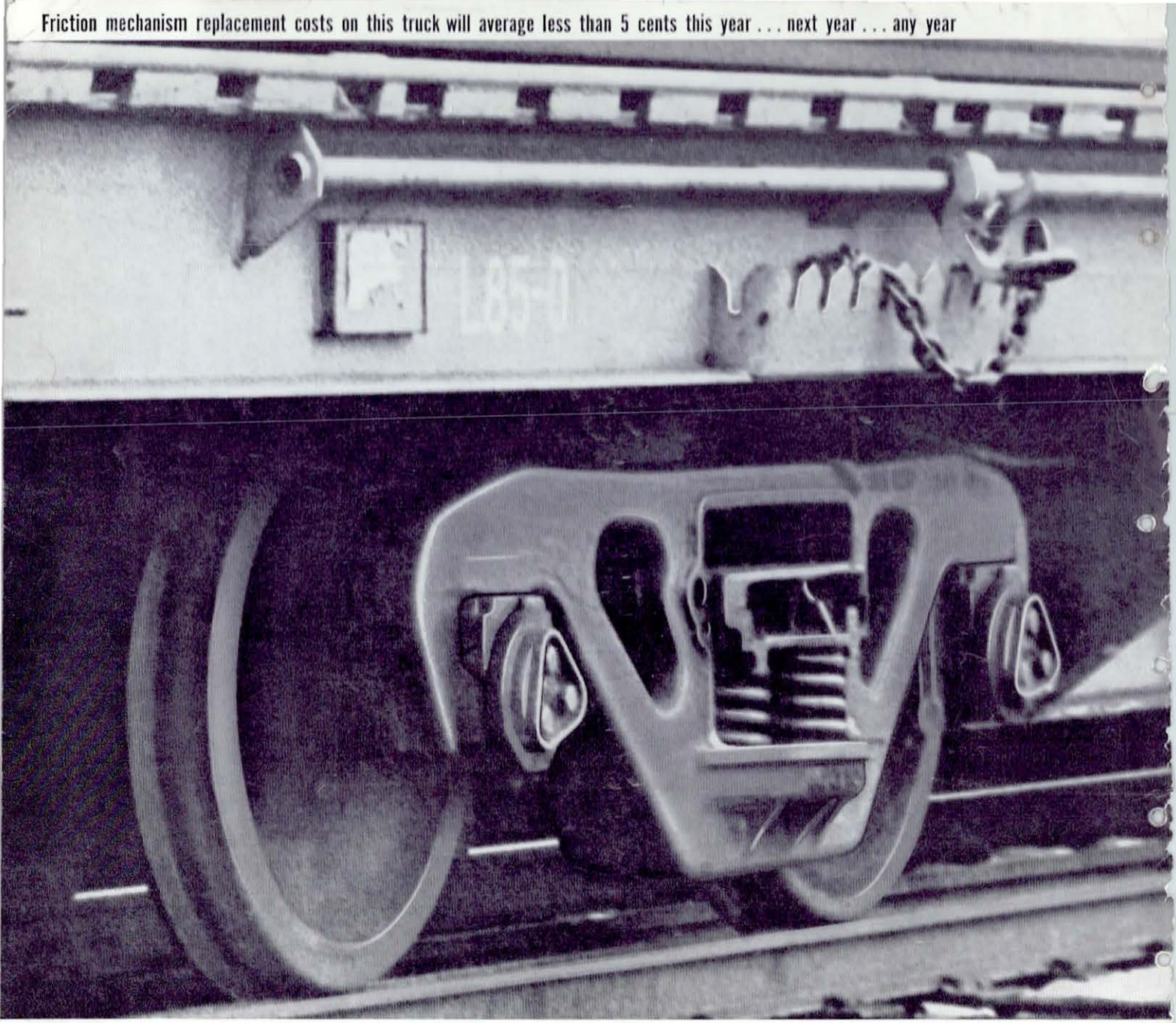

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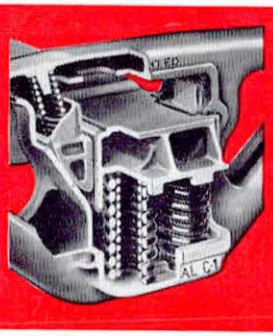

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